



Borough of



Cheltenham.

ANNUAL REPORT OF THE SANITARY CONDITION

ETC., ETC., OF THE
BOROUGH OF CHELTENHAM.
FOR THE YEAR 1914.

BY
J. H. GARRETT, M.D., D.P.H.,
MEDICAL OFFICER OF HEALTH.

Together with the Report of the Chief Sanitary Inspector
by Mr. A. E. Hudson.

ALSO THE
Annual Meteorological Report by Mr. A. C. Saxby.

"Salus Populi Suprema Lex."

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BOROUGH OF CHELTENHAM.

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Assistant Medical Officer—JOHN SELFE, M.R.C.S., L.R.C.P., D.P.H.

*To the Mayor and Members of the Sanitary
Authority of the Borough of Cheltenham.*

GENTLEMEN,—

I beg leave to present my Annual Report for the year 1914.

The health statistics for the year will be found to be favourable, most of the rates being about the average for the last 10 years, and, as I have pointed out in the Report, after the considerable reduction in the death-rate that has taken place in the last 20 years, we may well have arrived at what will prove to be a minimum for the present.

The worst feature of this record is the continuance of the prevalence of Scarlet Fever from the year before last, and of other throat affections. The Scarlet Fever, though only causing a single death, was disturbing to the families affected, and troublesome and costly to deal with. Fortunately the colleges and large secondary schools of Cheltenham had very few cases, the disease being much scattered over the town though affecting the children of one or two of the elementary schools in particular.

The great war has had its effect upon the Health Department, leading to several of its members joining the Army for active service, and through a part of the year we have been somewhat short-handed, but a good show is made in this Report as usual of general sanitary work accomplished during the year, and the inspection of slaughter-houses and destruction of unsound meat may be perhaps considered a special feature.

As the result of having soldiers billeted in the town, some considerable extra work has fallen upon the Chief Sanitary Inspector in maintaining a weekly inspection of all the premises occupied, and has occasioned other work. The staff by no means grudge this, but would be very willing to do what else further they could in assistance of the military movement so necessary to maintain under attack the honourable position of our nation among the nations of the world.

The members of the Health Department hope to find themselves better accommodated by the provision you have made in the year past of new Municipal Offices, and are looking forward to their occupation at a near date, when the change from the cramped and unsuitable apartments to the new offices ought to result in the work being better done.

With a grateful acknowledgment to the members of the Council and Staff for the kindly consideration and assistance rendered to us during the past year,

I have the honour to be, Gentlemen,

Your obedient servant,

J. H. GARRETT,

Medical Officer of Health.

March 8th, 1915.

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Natural and Social Conditions of the District.

Position of the Town in England.

Cheltenham is a pleasing inland town situated in the county of Gloucester and is included in the district of England which is sometimes alluded to as the West Midlands. Its nearest seacoast is that of the Bristol Channel, and within a radius of fifty miles lie the cities of Birmingham, Bristol, Bath, Oxford, Worcester and Hereford, and at the much nearer distance of eight miles the city of Gloucester.

The town is easily accessible from all parts of England, as it is the terminus or meeting place of several lines of railway, and has good high roads connecting it with the cities above mentioned, the Metropolis, and other centres.

Geological Formation of Site of Town.

The general geological characters of the immediately underlying rocks is that of the lias formation, the lias clay being at the surface excepting where it is covered by a superficial layer of sand, and more than half the area of the town and its suburbs has this sandy sub-soil, with the clay lying under it at various depths up to 50 feet or more. Over the rest of the area the clay is at the surface.

In the centre of the town, in the immediate neighbourhood of the small river Chelt, there is a quite limited area of gravelly sub-soil.

The nature of the sub-soil, whether sand or clay, does not make itself distinctly evident in the death and sickness returns. It is true that the matter is complicated by quality of population, and slight difference of aspect and altitude, but allowing for these, I have not been able to point to any difference in the healthfulness of localities which might be due to the nature of the immediate sub-soil. I am aware of the prejudice which exists in some people's minds against clay, but if this is capable of retaining water near the surface for a comparatively long period after wet weather, as com-

pared with sand, the sanitary methods of house building that are now compulsory under the bye-laws largely obviate any suggested influence of damp within the house itself, and large areas of the surface are now further protected and rendered waterproof by the modern methods of paving and road making. In this, as in other towns, the surface in the more urban area is to a considerable extent shut off from the sub-soil by layers of tarred material, and concrete, which deliver all the water that falls upon them into the adjacent drains, and the effect of soil, such as it may be, must by this means be considerably reduced.

Altitude and Climate of the Town.

The altitudes within the borough boundary vary from 160 feet at the extreme lower end of the Tewkesbury Road to 260 feet at the opposite end of the town where London Road enters Charlton Kings, and from 200 feet in the very centre of the town to over 400 feet where the borough ends at the foot of Leckhampton Hill.

The climate is generally mild, but varies perceptibly in its effect upon the sensibilities in different quarters of the town, according to the difference of altitude available, the aspect and relative openness of the part, and perhaps according to the position of the house occupied with reference to the position of the other houses of the town, and the prevailing winds, and the comparative absence or presence of thickly set trees. These are not the data of a Meteorological Report, but go further towards making up the effect of differences of atmosphere upon the body than do the slight difference in amount of rainfall, diurnal temperature, barometric pressure, and humidity. All these latter, however, are duly recorded here and may be consulted in Mr. Saxby's Meteorological Report for the year. A more decided variation of climate is obtained by ascending the Cotswold Hills that rise immediately behind the town to 1,000 feet, although outside its boundary.

Social Qualities of the Populace.

As affecting death and sickness rates the quality of our population is peculiar and out of the average, the aspect of the main streets, avenues and squares indicating a comparative richness, with a greater number of homes of large or of very

comfortable dimensions, and at first sight this would seem a favourable factor that might be expected to be operative in causing a low death-rate, since, generally speaking, the death-rate is expected to be higher in a poor population than in a rich one.

These rich appearances are deceptive in two particulars. In the first place they are neutralised by the existence of a larger number of quite poor houses that lie in quarters away from the part of the town frequented by visitors, and secondly, many of the houses contain inhabitants of advanced years, who are retired from active life, having settled here to end their days in a pleasant and peaceful place. This fact, together with the low birth-rate that causes a comparatively smaller number of persons to be present in the population at young and healthy ages, makes the average age of our population very high. That is to say there are more persons in our population whose life expectancy is short, and amongst whom the annual death-rate is very high, and this requires our death-rate to be corrected to make it comparable to average populations, the necessary reduction being equivalent to about 14 per cent.

Our population is also abnormal by reason of containing more females than an average population, the excess of females being about 17 per cent. over the normal slight excess of the general population, but I am not aware that this makes any material difference to the general death-rate, though it does make some difference to the rate from certain special causes of death.

No considerable part of our population is engaged in any local industry that can be said to be particularly unhealthy either to affect the death-rate on the whole, or from any single cause.

The disadvantages of poverty are shown by a higher death-rate in the poorest streets, that being an universal experience.

In my last Report, by quotations from the census returns, I showed how the age incidence of our population compared with that of the population of the neighbouring city of Gloucester, which is of a more industrial character, and has not the comparatively large proportion of elderly persons exhibited by the population of Cheltenham.

The following quotations may be of some interest at this

moment in connection with the recruiting of an army to meet our German foes :

Population at 1911 census.

	Total both sexes.		Total male sex.
England and Wales.....	36,070,492	.....	17,445,608
Cheltenham Borough ...	48,942	.....	20,241

The population of Scotland and Ireland are together rather more than one-fourth that of England and Wales.

Number of males in the population at ages 19 to 40 inclusive.

	Married & unmarried.		Unmarried.
England and Wales	6,184,948	.....	2,974,037
Cheltenham Borough ...	6,023	.....	2,896*

* Supposing the relative number of unmarried are the same in Cheltenham as in the whole of England and Wales.

The number enlisted since the war broke out are seen to be far below the number available. It has, however, to be remembered that the latter include men of every standard of height, health, and fighting ability, and the best part of the fighting power of the United Kingdom has no doubt already been enrolled in our volunteer army, and I believe the enlistment in this town and neighbourhood is well up to the average for the country at large.

The physical quality of the local recruits as exhibited in the two battalions of the Gloucester Regiment at present billeted in Cheltenham impress one as being very good. They have the appearance of a body of strong and capable soldiers.

The recruiting will have made a difference to our population by the removal from their homes of 1,000 healthy young men or so, but as over 2,000 are here billeted it is rather a matter of increase than decrease whilst the latter are with us. In no case will our local health statistics be affected to a considerable degree by this movement, unless it be ultimately in the birth-rate.

Vital Statistics.

Area of Municipal Borough...	...	...	acres, 4,726
Rateable Value . . . . .	...	...	... £320,836
Estimated Population at middle of last year	...	...	... 49,500
Population at the 1911 Census	...	...	... 48,942
Persons per Acre in the Borough at Census 1911	...	...	... 10·3
Persons per separate Family	...	...	... 4·31
Death-Rate, 1914 (crude)	...	per 1000 living inhabitants	14·0
" " (corrected)	...	" "	12·2
Average Death-Rate for previous 10 years (crude)	...	" "	13·8
" " " " (corrected)	...	" "	12·0
Zymotic Death-Rate for 1914	...	" "	·64
Average Zymotic Death-Rate for the previous 10 years	...	" "	·86
Pulmonary Tuberculosis Death-Rate, 1914	...	" "	·78
Average Pulmonary Tuberculosis Death-Rate for			
the previous 10 years	...	" "	·83
Birth-Rate, 1914	...	" "	15·9
Average Birth-Rate for previous 10 years	...	" "	17·7
Infant Death-Rate, 1914, per 1000 children born	...	...	86
Average Infant Death-Rate for the previous 10 years	...	...	101

Births and the Birth-Rate.

We have a very low birth-rate in Cheltenham. Three years ago it dropped about 12 per cent. suddenly below the already low average, and has not risen again since. The number of births pertaining to the Borough last year was 791. Of these 740 were legitimate, and 51 were illegitimate.

These 791 births took place for the main part in small houses, the occurrence of a birth in the professional or the leisured class being occasional. This has for long been the case in Cheltenham, so that the reproduction of the population here takes place almost wholly by increase among the industrial, and minor trading population. The number of births in each of the last three years showed next to no variation, being 791, 784, 784, the birth-rate per 1000 living inhabitants per annum varying only ·1 point from 15·8.

The Infant Death-Rate.

This is the number per 1000 children born who die during their first year of life. Last year the number was 86, the year before it was 88—practically the same figure. The rate of infant deaths was never high in Cheltenham as compared to what it is in many large towns and industrial centres, but latterly it has undergone a marked diminution from causes which are somewhat obscure, or at least not thoroughly

explained. It is the same in most places. The figure at which the infant death-rate stands for last year is low considering that a full half of these deaths were due to premature birth, malformations, debility and the like, dating from birth or from before birth.

Deaths and the General Death-Rate.

The number of deaths pertaining to this district in the year 1914 was 695. The number of deaths actually registered in the district was 694.. Of these 48 belonged to outside districts having come into Cheltenham a short time before their death to be treated at one of our hospitals. On the other hand 49 persons whose homes were in Cheltenham died outside the borough and were referred here by the Registrar-General. Of these 49 who died outside the district but belonged to it 34 were mental cases that died in the Gloucester County Asylum, or in other asylums for the insane.

Our 695 deaths give a crude death-rate per 1000 inhabitants of 14·0, which is reduced to a nett or corrected rate of 12·2 when multiplied by the factor ·8709 officially supplied from the census office as representing what is due to make our rate comparable with that of the whole country by reason of the too high average age of our population. These rates are very near our average rates for the previous 10 years, our average corrected death-rate being 12·0 per 1000 living.

I believe there are now causes in operation which will tend to prevent the further marked fall of the death-rate.

There is a tendency on account of the fall of the birth-rate, and perhaps also on account of the saving of lives by sanitary measures to heighten the average age of the existing population, not only here locally, but in most districts. For a period of years the result may be to increase the relative proportion in the population of persons over 65 years of age amongst whom the death-rate is vastly higher than at younger ages. In this town the number of the population over 65 years of age, as shewn by the census, is in excess of the number over that age in the country at large, and to make our crude death-rate comparable to that of the whole country, and other places, we have our factor by which the crude death-rate is reduced to the corrected death-rate. Just the same importance attaches to the age constitution of the same population at different times, as when its death-rate for this year is to be compared with the death-rate for some past

year. Any change in the age constitution must be taken into account and a factor be found for its correction, or a statement of increased or diminished death-rate may be quite misleading.

Apart from all this there must be an irreducible minimum below which the death-rate cannot fall so long as man is mortal. We have some powers of limiting certain causes of disease by sanitary means and increased care of the living, but the powers are subject to bounds and apt to be counteracted by influences beyond our control. It is questionable whether the average possible term of active human life has been at any time enlarged beyond the proverbial threescore and ten years. At the present time the usual superannuation ages are 65 or 60 years, and the 70 years of the old age pension scheme is acknowledged to be too advanced, and it is only those years when life is active and can be enjoyed that are really worth lengthening. But although the average ability to withstand the ultimate effect of age may not have increased, the average length of life has been heightened, and this partly by saving life during useful years. It is a clear gain for instance of some of those who used to die at 40 are now reaching the age of 50.

The Zymotic Death-Rate.

The death-rate from the seven chief zymotic diseases for 1914 was $\cdot 64$ per 1000 living inhabitants, the average for the previous 10 years being $\cdot 86$. Measles and Epidemic Diarrhœa, which are the two of the seven diseases that produce most deaths, were comparatively quiescent last year, there being no deaths at all from Measles, and no more than 13 from Acute Diarrhœa and Enteritis, this being a good deal below the average. The chief happenings in Cheltenham last year in regard to Zymotic Diseases is referred to again at length, further on in this report, under the heading Acute Infectious Diseases.

The Tuberculosis Death-Rate.

The Tuberculosis in the Borough last year is also dealt with in an article further on, and it suffices here to mention that the death-rate from Phthisis or Pulmonary Tuberculosis was $\cdot 78$ and from all other forms of Tuberculosis $\cdot 22$ per 1000 living inhabitants, making in all just 1 per 1000 for all forms of Tuberculosis which is a comparatively small rate,

and the present tendency is towards a decline in the number of persons who are attacked and die from Tuberculosis.

The Cancer Death-Rate.

It is to be expected that the Cancer death-rate will be higher in Cheltenham than in the whole country on account of our high percentage of inhabitants at the more advanced age groups, since Cancer causes few deaths at ages below 45. The year before last we had quite an abnormally high rate of 1.55, but last year it was 1.25 per 1000 living. Our average death-rate from this disease when corrected for the difference of age of population differs but slightly from the average for the whole country.

Respiratory Disease Death-Rate.

The rate for diseases of the Respiratory System other than Tuberculosis of the lungs, *i.e.*, Bronchitis and Pneumonia chiefly, Pleurisy, Asthma, etc., was 1.88 per 1000 inhabitants last year. Cheltenham is not an unpropitious place for persons subject to respiratory diseases such as Chronic Bronchitis, our death and sickness rates for these diseases being below the average. For the main part these causes of death are operative in infants or quite young children and elderly persons. Last year there were very few infant deaths from lung diseases here, the bulk of those that occurred being over 65 years of age. There was an unusual number of deaths from Pneumonia in the Workhouse Infirmary last year, suggesting that the disease was of infectious type.

Deaths from other Causes.

The remainder of the deaths that occurred in 1914 are divided amongst a great number of causes, as may be noticed by a perusal of the list arranged according to the International Nomenclature of Diseases which will be found a few pages further on in this report. Influenza was the direct cause of 11 deaths, 9 of them occurring in persons of advanced years. It may be taken also to have been the indirect cause of some of the deaths from Pneumonia and Bronchitis. There were 37 deaths in persons suffering from some mental affliction, 34 of them being in asylums, although the cause of death assigned was frequently a disease of some other organ than the brain. Causes due to violence were more numerous than usual. There were 7 suicides, and 17 deaths by accident including 3 from being knocked down by motor cars.

Table of Statistics for the last 10 years, showing Deaths from Chief Zymotic Diseases, and Zymotic Death-rate, and Total Deaths and General Death-rate; also Total Births and Birth-rate per 1,000 of population, and (under 1 year old) Infant Death-rate per 1,000 children born.

	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914
Small Pox ...	50,500	51,000	51,000	51,000	51,500	51,500	49,200	49,500	49,500	49,500
Measles ...	30	7	...	...	47	...	34	1	17	...
Scarlet Fever ...	1	1	...	...	...	...	1	1	4	1
Diphtheria ...	6	9	7	1	3	3	...	2	3	12
Whooping Cough ...	11	1	7	3	5	9	3	9	...	2
Enteric and Continued Fevers ...	2	1	2	2	2	4	4	...	2	4
Diarrhoea, Enteritis, &c., in Young Children ...	24	16	15	16	21	9	37	4	18	13
Total Deaths from seven chief Zymotics...	74	35	31	22	78	25	79	17	44	32
Death-rate from Chief Zymotics ...	1.46	.68	.60	.43	1.51	.49	1.60	.34	.88	.64
Total Deaths belonging to District ...	747	711	708	641	784	624	696	655	743	695
General Death-rate ... (Uncorrected for unusual age incidence).	14.8	13.9	13.8	12.5	15.2	12.1	14.1	13.2	15.0	14.0
Total Births belonging to district ..	995	975	881	955	949	926	937	784	784	791
Birth rate ...	19.7	19.1	17.2	18.7	18.4	18.0	19.0	15.8	15.8	15.9
Infant Death-rate per 1,000 Children born ...	131	100	95	90	119	68	127	66	88	86

Deaths certified by Coroners after Inquests in 1914 pertaining to the Borough of Cheltenham.

Accident by being knocked down by vehicles	...	5
„ fall and its results ...	...	7
„ suffocation due to food in windpipe	...	1
„ suffocation whilst in bed with mother	...	2
„ burns ...	...	1
„ shooting ...	...	1
Apoplexy ...	...	1
Alcoholism ...	...	1
Aneurism ...	...	1
Convulsions ...	...	1
Heart affections ...	...	7
Myxædema ...	...	1
Pneumonia and broncho-pneumonia	...	4
Premature-birth ...	...	1
Suicide by wound in neck self-inflicted	...	1
„ shooting ...	...	1
„ drowning ...	...	1
„ placing self under train	...	2
„ poison ...	...	1
Ulcer of stomach and hæmorrhage	...	1
Want of attention—newly born (found dead)	...	1
Want of inflation of lungs—newly born	...	1
		—
		42
		—

Uncertified Deaths, 1914.

Premature-birth at age 17 days	...	1
do. do. do. 10 minutes	...	1
do. do. do. 2 hours	...	1
Marasmus and heart failure 3 years	...	1
Heart failure at age 53	...	1
		—
		5
		—

Deaths pertaining to Cheltenham that took place in Hospitals and Institutions in 1914.

(The figures after the deaths refer to ages at death.)

CHELTHENHAM GENERAL HOSPITAL.—Phthisis 17, 9, cirrhosis of liver 50, appendicitis 24, 64, septic catarrh 3m., marasmus 4m., 2m., gastro enteritis 1m., 6m., 8m., enteritis 4m., 5m., 6m., 10m., endocarditis 9, 39, 60, knocked down by motor-car 5, 30, burns 23m., otitis media 14, pneumonia 6m., 12m., 35, premature birth 12wks., serous meningitis 47, cancer 67, 45, 77, 51, 45, 88, 60, 42, 64, 22, 56, arterio-sclerosis 48, pernicious anæmia 34, peritonitis 30, uræmia 31, spinal paraplegia 61, tuberculous meningitis 16, 5, gastric ulcer 47, strangulated hernia 71, accidental fall 22, 60, 9, fractured thigh 65, enlarged prostate 62, toxæmia 1m., 80, 74, nephritis 72, internal obstruction and operation 63, 31.

CHELTHENHAM WORKHOUSE INFIRMARY.—Phthisis 61, 67, senile decay 67, 68, 76, 78, 75, 83, 85, 79, 79, 81, 66, 74, enteric fever 4, pneumonia 76, 92, 72, 68, 80, 67, 67, 40, 44, 51, 63, 72, 42, 65, cirrhosis of liver 54, apoplexy 67, 56, 75, 68, debility 7 days, 3 days, heart disease 64, 68, 64, 70, cancer 62, 65, 68, 65, 52, 76, general tuberculosis 10, aortic disease 56, hemiplegia 80, nephritis 46, 76, 78, bulbar paralysis 60, ulcer of leg 80, suicide by cut in neck 61, congenital syphilis 6m., erysipelas 69, bronchitis 82, emphysema 43, pancreatitis 72, puerperal septicæmia 19, general paralysis 72, chronic alcoholism 75.

DELANCEY HOSPITAL FOR INFECTIOUS DISEASES.—Scarlet fever 7, diphtheria 6, 2, 4, 3, 5, 8, 4, 5, 5, 14, 4, 10, enteric fever 16.

HOME FOR SICK CHILDREN.—Gastro enteritis 1m., 2m., general tuberculosis 7m.

ROYAL NURSING HOME.—Cancer 51, 55, 50, tuberculous kidney and operation 70.

CENTRAL SPA NURSING HOME.—Cirrhosis of liver 49.

IMPERIAL NURSING HOME.—Appendicitis 56.

COUNTY ASYLUMS FOR THE INSANE, WOTTON VILLA AND BARNWOOD. Senile dementia 67, general paralysis 21, 35, 43, 41, 48, phthisis 21, 56, 33, angina pectoris 73, heart disease 49, 61, 73, 69, 74, 52, cellulitis 41, arterio-sclerosis 65, 64, 66, melancholia 56, Bright's disease 58, 57, abscess of neck 68, bronchitis 68, epilepsy 47, senile decay 78, 67, 88, 85, pneumonia 49.

Transferred Births and Deaths.

The Registrar-General now exercises a process of transfer to the districts to which they justly belong of deaths occurring in other districts of persons away from their homes.

The inward transfers are of deaths of Cheltenham persons that took place in outside districts, or whilst away from their homes here, and are referred back to Cheltenham and have been added to our list of deaths, their number last year being 49. For the main part they were the deaths of persons who had been removed to the County Lunatic Asylums.

The outward transfers were of deaths registered as having taken place in Cheltenham of persons here on temporary sojourn. They have been severally transferred to the death-lists of the places where they had their usual residences, and have been subtracted from our lists. Their number last year was 48. These deaths took place for the main part in our hospitals.

Thus the net difference between inward and outward transfers of deaths was represented last year by one death only.

A similar transfer of births takes place, but very few births are involved. Last year there were 4 inward transfers and 1 outward transfer.

Ward Statistics.

DISTRIBUTION OF DEATHS IN WARDS, ETC., IN 1914.

The deaths pertaining to the borough may be divided as follows :—

North Ward.	South Ward.	East Ward.	West Ward.	Central Ward.	Middle Ward.	Not referable to Wards.	Inward Transfers.	Total.
146	111	114	83	102	84	6	49	695

In estimating the statistics of the several wards the population of each ward at the 1911 census is used.

The High Street cuts the town into two equal portions, and three of the wards, with a little overlapping on the part of one ward, lie on the North side and three on the South side of the High Street.

The three wards on the North side contain the greater number of poor houses and usually show the highest death-rate as compared with the other three wards. The North Ward, which is the poorest ward, invariably shows the highest death-rate. The birth-rate is also invariably highest in this ward, and the infant death-rate, though none of these are very high as compared with some other places in the kingdom. There is a considerable amount of acute poverty and squalor in some of our worst streets, but we do not suffer very greatly from overcrowding. There is very little overcrowding of houses on space. We have one fairly long row of back-to-back houses and a few other short rows of houses that have no through ventilation. But these houses, particularly the back-to-back houses referred to (Swindon Place), are not closely shut in by other surrounding buildings, and as the buildings are only one room deep there is no great difficulty about getting air into the apartments. Neither is there much bad overcrowding of persons in houses in Cheltenham. I do not think there is any poor class street in Cheltenham that shows so many as 5 persons per house on the average. Some of the very poorest streets, the population of which I have from time to time had counted, showed an average of only between 3 and 4 persons per house. Individual cases of overcrowding

can of course always be found, and an instance or two are brought before the Health Committee at most of its fortnightly meetings, and sometimes as few as 3 or 4 persons in a house will suffice to overcrowd it, for we have many houses that were built in the era before building bye-laws were thought of, and which are far too incommodious for comfortable habitation, and sometimes the rapid arrival of babies to enlarge the families, a thing that seems to happen more frequently among the careless and improvident than elsewhere, leads to overcrowding and the accompanying detriment to health and life. These small properties give the Inspectors constant employment to remedy the lack of good repair to which they are chronically subject, and still the poor neighbourhood shows the worst Public Health Statistics, for, besides the worst death-rate, the worst rate for infectious disease incidence and tuberculosis incidence also here attaches. This is to be expected, not only on account of the poorer dwellings, but for the reason that the physically poorest part of the community are resident in these localities, as they naturally must be in a competitive system of society.

The adjoining table shows the death-rate from the chief diseases, the birth-rate, etc., for the whole town, and for each ward. The best general showing for the last year is made by the Middle Ward, and this has often been the case, though sometimes the West Ward has taken the lead. The total death-rate of 9·4 for the Middle Ward is very low, and this is the crude rate. Multiplied by the correcting factors it is reduced to 8·1. The corrected death-rate for the three wards South of High Street taken together—population 24,287—was 10·0 per 1,000 living. The birth-rate in the Middle Ward was only 10·9 last year, and the infant death-rate only 30, there being 97 births. These numbers all suggest some special cause such as a special quality of population for example, and this may be partly found in the fact of the population including the dwellers in some large residential establishments that exist in the ward. The respectable small houses in the streets of Tivoli, however, which also lie in this ward, might have been expected to make a larger addition to the birth-rate. But the Middle Ward, as well as the West Ward, contains numerous large houses which do not affect the birth-rate.

Local Government Board Table No. I.—Vital Statistics of whole District of the Borough of Cheltenham during 1914 and previous years.

YEAR.	Population estimated to Middle of each Year.	BIRTHS.			TOTAL DEATHS REGISTERED IN THE DISTRICT.		TRANSFERABLE DEATHS.			NETT DEATHS BELONGING TO THE DISTRICT.			
		Uncorrected Number.	Nett.		Number.	Rate.	of Non-residents registered in the District	of Residents not registered in the District	Under 1 Year of age		At all Ages		
			Number.	Rate.					Number.	Rate per 1,000 Nett Births.	Number.	Rate	
1908	51,000	955	...	18.7	672	13.2	31	...	86	90	641	12.5	
1909	51,500	949	...	18.4	814	15.8	30	...	113	119	784	15.2	
1910	51,500	926	..	18.0	639	12.4	32	17	63	68	624	12.1	
1911	49,200	943	937	19.0	712	14.5	39	23	119	127	696	14.1	
1912	49,500	783	784	15.8	656	13.2	28	27	52	66	655	13.2	
1913	49,500	783	784	15.8	751	15.1	44	36	69	88	743	15.0	
1914	49,500	788	791	15.9	694	14.0	48	49	68	86	695	14.0	

Area of District in acres 4,726

Total population at all ages..... 48,942

Number of families or separate occupiers... 11,346

Average No. of persons per family 4.31

At } Census 1911

Local Government Board Table II.—Cases of Infectious Disease notified during the year 1914
for the Borough of Cheltenham.

NOTIFIABLE DISEASES.	Number of Cases Notified.							Total Cases notified in each Locality.						Total cases removed to Hospital.	
	At all Ages	Under 1.	1 to 5.	5 to 15.	15 to 25.	25 to 45.	45 to 65.	65 & upwards.	North Ward.	South Ward.	East Ward.	West Ward.	Central Ward.		Middle Ward.
Diphtheria (including Membranous Croup)	103	...	29	55	11	7	1	...	22	21	19	10	11	20	86
Erysipelas	39	1	1	1	3	7	16	10	11	5	8	5	6	4	...
Scarlet Fever	328	...	58	220	38	10	2	...	72	36	102	29	53	36	273
Enteric Fever	17	...	...	1	7	7	...	2	3	1	2	5	3	3	...
Puerperal Fever	5	...	...	...	2	3	...	...	3	1	...	...	1	...	2
Cerebro-spinal Meningitis	1	1	...	...	...	...	...	...	1	...	...	...	...	...	...
Poliomyelitis	1	...	...	...	1	...	...	...	1	...	...	...	...	...	...
Ophthalmia Neonatorum	9	9	...	...	...	...	...	...	4	2	2	...	1	...	...
Pulmonary Tuberculosis	115	...	2	17	27	54	12	3	34	24	19	7	22	9	...
Other Forms of Tuberculosis	38	1	3	10	9	12	3	...	11	9	4	4	4	6	...
Totals ...	656	12	93	304	98	100	34	15	162	99	156	60	101	78	361

CAUSES OF DEATH.	Nett deaths at the subjoined ages of "Residents" whether occurring within or without the District.								Total Deaths in Institutions in District	
	All Ages.	Under 1.	1 and under 2.	2 and under 5.	5 and under 15.	15 and under 25.	25 and under 45.	45 and under 65.		65 and upwards.
Enteric Fever ...	4	...	...	1	...	1	1	...	1	2
Scarlet Fever ...	1	...	...	...	1	...	...	...	...	1
Whooping Cough ...	2	...	...	2	...	...	...	...	...	...
Diphtheria and Croup ...	12	...	...	5	7	...	...	...	...	12
Influenza ...	11	...	...	...	...	...	1	1	9	...
Erysipelas ...	1	...	...	...	...	...	...	...	1	1
Phthisis (Pulmonary Tuberculosis) ...	40	...	...	1	2	8	16	9	4	7
Tuberculous Meningitis ...	4	...	...	1	1	2	...	...	...	2
Other Tuberculous Diseases ...	7	1	1	1	2	...	1	...	1	3
Cancer, Malignant Disease ...	62	...	...	...	...	1	2	27	32	20
Rheumatic Fever ...	1	...	...	...	...	...	...	1	...	...
Meningitis ...	7	2	...	...	1	1	1	1	1	1
Organic Heart Disease ...	85	...	...	...	1	2	3	28	51	13
Bronchitis ...	41	1	...	...	...	...	1	4	35	2
Pneumonia (all forms) ...	51	5	4	3	2	...	4	11	22	18
Other Diseases of the Respiratory Organs ...	6	1	...	...	...	...	1	...	4	1
Diarrhoea and Enteritis ...	14	12	1	...	...	...	...	...	1	8
Appendicitis and Typhlitis ...	6	...	...	...	...	...	2	2	2	3
Cirrhosis of Liver ...	5	...	...	...	...	...	1	3	1	3
Alcoholism ...	1	...	...	...	...	...	...	...	1	1
Nephritis and Bright's Disease ...	37	...	...	...	1	...	1	12	23	6
Puerperal Fever ...	1	...	...	...	...	1	...	...	...	1
Other Accidents and Diseases of Pregnancy and Parturition ...	1	...	...	...	...	...	1	...	...	...
Congenital Debility and Malformation, including Premature Birth ...	36	34	...	2	...	...	...	...	...	3
Violent Deaths, excluding Suicide ...	17	2	1	...	4	2	2	4	1	7
Suicides ...	7	...	...	...	...	...	12	50	157	1
Other Defined Diseases ...	232	8	...	...	3	2	...	1	...	59
Diseases ill-defined or unknown ...	3	2	...	...	...	...	...	...	...	...
All causes { Certified Deaths ...	690	65	7	15	25	20	52	157	349	175
{ Uncertified Deaths ...	5	3	...	1	...	...	...	1	...	...

Local Government Board Table IV.—Infantile Mortality during the Year 1914 in the Borough of Cheltenham.
 Nett deaths at stated causes at various ages under 1 year of age.

CAUSE OF DEATH.	Under 1 week	1-2 weeks	2-3 weeks	3-4 weeks	Total under 1 month	1-3 months	3-6 months	6-9 months	9-12 months	Total Deaths under 1 year
Other Tuberculous Diseases	...	...	...	...	...	...	...	1	...	1
Meningitis (<i>not Tuberculous</i>)	...	...	...	...	...	...	1	...	1	2
Convulsions	...	...	1	...	1	...	...	2	...	3
Bronchitis	...	...	...	...	...	3	1	1	...	1
Pneumonia (all forms)	...	...	...	...	...	...	1	1	...	5
Diarrhœa	...	...	...	...	...	4	2	3	1	2
Enteritis	...	...	...	...	...	1	...	1	...	10
Syphilis	...	...	...	...	1	...	...	1	...	2
Suffocation, overlying	1	...	...	...	1	...	...	1	...	2
Atelectasis	1	...	...	...	1	...	...	...	...	1
Congenital Malformations	1	...	1	1	3	...	...	...	...	3
Prematuré Birth	11	3	2	1	17	...	...	...	1	18
Atrophy, Debility and Marasmus	3	2	2	1	8	3	2	...	...	13
Other Causes	1	...	...	...	1	1	1	1	1	5
All causes { Certified Deaths ...	16	5	5	3	29	12	8	11	5	65
{ Uncertified Deaths	2	...	1	...	3	...	...	...	...	3
Nett Births in the year { Legitimate, 741. Illegitimate, 50.	Nett Deaths in the year { Legitimate infants, 61. Illegitimate Infants, 7.									

BOROUGH OF CHELTENHAM.

Causes of Death pertaining to the District in 1914.

(Nomenclature and arrangement according to the International List).

CAUSES OF DEATH.	AGES AT DEATH.								Total at all Ages
	0 to 1	1 to 5	5 to 15	15 to 25	25 to 45	45 to 65	65 to 75	75 and upwards	
I.—GENERAL DISEASES.									
Enteric Fever		1		1	1		1		4
Scarlet Fever			1						1
Whooping Cough		2							2
Diphtheria		5	7						12
Influenza					1	1	3	6	11
Erysipelas							1		1
Septicæmia						1			1
Tetanus						1			1
Pulmonary Tuberculosis		1	2	8	16	9	4		40
Acute Miliary Tuberculosis		2			1				3
Tuberculous Meningitis		1	1	2					4
Tabes Mesenterica			1						1
Tuberculous Kidney							1		1
General Tuberculosis	1		1						2
Congenital Syphilis	2								2
Cancer				1	2	27	19	13	62
Fibromata						1			1
Rheumatic Fever						1			1
Sub-Acute Rheumatism							2		2
Chronic Rheumatism						1		2	3
Diabetes						3	3	4	10
Leuchæmia						2	2	1	5
Pernicious Anæmia					1		1		2
Anæmia						1		1	2
Purpura	1						1		2
Toxæmia	1						1	1	3
Alcoholism								1	1
Delirium Tremens						1			1
II.—DISEASES OF THE NERVOUS SYSTEM.									
Inflammation of Cerebrum					1				1
Meningitis	1		1	1	1	1	1		6
Cerebro-Spinal Meningitis	1								1
Myelitis								1	1
Bulbar Paralysis... ..						1	1		2
Apoplexy, Cerebral Hæmorrhage						15	12	21	48
Cerebral Softening								1	1
Hemiplegia						1		4	5
Spinal Paraplegia						1			1
General Paralysis of the Insane				1	3	2	1		7
Melancholia						2			2
Senile Dementia... ..							1		1
Epilepsy				1	1	2			4
Convulsions	3		1						4

CAUSES OF DEATH.	AGES AT DEATH.								Total at all Ages.
	0 to 1	1 to 5	5 to 15	15 to 25	25 to 45	45 to 65	65 to 75	75 and upwards	
NERVOUS SYSTEM— <i>continued.</i>									
Peripheral Neuritis								1	1
Imbecility... ..					1				1
Cerebral Tumour							1		1
Otitis Media			1				1		2
III.—DISEASES OF THE CIRCULATORY SYSTEM.									
Acute Endocarditis			1	1	1	2			5
Organic Disease of Heart				1	2	26	30	21	80
Arterio Sclerosis						5	5	2	12
Atheroma							1	2	3
Embolism					1				1
IV.—DISEASES OF THE RESPIRATORY SYSTEM.									
Septic Catarrh	1								1
Bronchitis	1				1	4	16	19	41
Broncho-Pneumonia	4	2	2				2	2	12
Pneumonia	1	5			4	11	7	11	39
Pleurisy								1	1
Empyema					1				1
Asthma							1		1
Fibrosis of Lung							2		2
V.—DISEASES OF THE DIGESTIVE SYSTEM.									
Stomatitis							1		1
Septic Tonsillitis			1						1
Gastric Ulcer						3		1	4
Epidemic Diarrhœa	2								2
Epidemic Enteritis	5	1							6
Epidemic Gastro-Enteritis	5								5
Enteritis							1		1
Colitis							1	1	2
Appendicitis					2	2			4
Perityphlitis						1			1
Hernia						1	1		2
Intestinal Obstruction					1	1			2
Cirrhosis of Liver					1	3	1		5
Gall Stones							1		1
Peritonitis					1	1		1	3
Pancreatitis							1		1
VI.—DISEASES OF THE GENITO-URINARY SYSTEM.									
Acute Nephritis			1						1
Chronic Nephritis, Bright's Disease					1	12	12	11	36
Uræmia					1				1
Cystitis						1			1
Polypus of Bladder								1	1
Enlarged Prostrate						1		1	2

CAUSES OF DEATH.	AGES AT DEATH.								Total at all Ages.
	0 to 1	1 to 5	5 to 15	15 to 25	25 to 45	45 to 65	65 to 75	75 and upwards	
VII.—DISEASES CONNECTED WITH THE PUERPERAL STATE.									
Puerperal Septicæmia				1					1
Eclampsia					1				1
VIII.—DISEASES OF THE SKIN AND CELLULAR TISSUES.									
Gangrene							1	1	2
Cellulitis					1			1	2
Ulcers of Leg								1	1
Pemphigus						1			1
X.—MALFORMATIONS.									
Congenital Malformation of Heart ...	3								3
XI.—DISEASES OF EARLY INFANCY.									
Premature Birth	18								18
Asthenia	1								1
Debility	4								4
Lack of Vitality	1								1
Starvation	3								3
Marasmus	3	2							5
Want of Breast Milk	1								1
Atelectasis	1								1
XII.—OLD AGE.									
Old Age							14	57	71
XIII.—DEATHS PRODUCED BY EXTERNAL CAUSES.									
Suicide under Train					1	1	1		3
„ by Drowning						1			1
„ Poison						1			1
„ Cut Throat						1			1
„ Shooting					1				1
Accident by Burns		1							1
„ Overlying	2								2
„ Fall... ..			1	1	1	3	1		7
„ Gunshot				1					1
„ Knocked down by Motor... ..			2		1				3
„ Knocked down by Cycle						1			1
„ Fractured Thigh							1		1
„ by Wind Pipe being choked with food			1						1
XIV.—DEATHS FROM ILL-DEFINED CAUSES.									
Inanition						1			1
Found Dead	1								1
Dentition	1								1
Totals	68	23	25	20	52	158	158	191	695

Acute Infectious Diseases.

Chiefly on account of Scarlet Fever and throat affections our infectious disease record was a good deal above the average last year, as was the case the year before, the sub-epidemic prevalence of Scarlet Fever being continued from 1913 through 1914. Particularly in the last months of the year, which were marked by extreme humidity, our cases increased, and the fact of there being a simultaneous rise of these diseases in most populous districts throughout England showed that the influence was pretty universal.

Number of cases of Zymotic Disease notified in Cheltenham
since notification began.

Year	Scarlet Fever	Diphtheria	Enteric Fever	Puerperal Fever	Small-pox	Erysipelas	Polyomyelitis	Cerebro-Spinal Meningitis	Infective Conjunctivitis	Ophthalmia Neonatorum
1890	93	16	24	2	...	...	...	...	...	...
1891	75	15	19	...	...	...	...	...	...	...
1892	264	10	10	...	...	...	...	...	...	...
1893	419	33	63	4	2	...	...	..	.	...
1894	147	26	27	1	3	...	...	...	...	...
1895	89	25	34	3	1	...	...	...	...	...
1896	126	60	26	4	22	...	...	...	...	...
1897	224	43	20	1	...	...	...	...	...	...
1898	296	52	23	5	...	...	...	...	...	...
1899	273	80	16	...	...	...	...	...	...	..
1900	103	74	32	1	...	21	...	...	...	...
1901	67	58	18	1	...	16	...	...	...	...
1902	147	63	18	3	1	19	...	...	...	...
1903	142	65	17	...	1	25	...	...	...	...
1904	143	59	7	...	...	25	..	...	...	...
1905	116	65	16	...	4	42	...	...	...	...
1906	104	61	24	6	1	37	...	...	...	...
1907	30	71	14	...	...	16	...	...	...	...
1908	79	53	12	1	...	20	...	...	...	...
1909	87	39	20	2	...	24	...	...	...	...
1910	81	90	8	2	...	27	..	...	...	...
1911	77	26	34	...	...	34	...	...	...	...
1912	193	19	10	...	...	27	...	...	...	...
1913	335	49	11	3	...	45	4	...	...	...
1914	328	103	17	5	...	39	1	1	1	9
Average for all y'rs	161	50	20	1.7	1.4	27	2.5	1	1	9

Scarlet Fever.

In 1914 there were 328 cases of Scarlet Fever notified as compared with 335 in 1913. In my last report I stated of the prevalence of 1913, that it was the North Ward that was the worst affected. Last year it was the East Ward that had most cases, although throughout the year cases were scattered over the town as shown in the following table :

Scarlet Fever Cases in each Ward and in each Month of 1914.							
Month.	North Ward	South Ward	East Ward	West Ward	Central Ward	Middle Ward	Monthly Total
January	8	2	2	6	3	6	27
February	6	4	2	3	4	6	25
March	5	0	3	2	1	3	14
April	1	0	7	1	2	1	12
May	4	1	2	2	5	3	17
June	6	2	6	0	4	1	19
July	10	2	3	1	1	1	18
August	5	0	3	2	6	1	17
September	6	3	12	2	3	2	28
October	8	3	25	1	10	3	50
November	4	11	27	4	6	7	59
December	9	8	10	5	8	2	42
Totals	72	36	102	29	53	36	328

Cases in the 3 wards on the North side of the High Street numbered 227. In the 3 wards on the South side of the High Street 101.

The Scarlet Fever that occurred in Cheltenham last year was of a mild type, which is emphasised by the fact that there was but one death amongst the 328 cases. The type of the disease was nevertheless exceptionally infectious, and enquiry into the causation of the repeated outbreaks over and over again revealed a neglected causing case of a very mild description, with a history of a slight rash and indisposition lasting only a few days. These cases were judged by the parents to be of too little consequence for a doctor to be called in, the children being sent back to school whilst still suffering from the disease, only to be discovered upon inspection of all the children in the school, or class, after several

cases had occurred amongst the other children to create the suspicion of the existence of such a causing case. In more than one instance the neglect was followed by a nemesis overtaking the family of the neglected child, in one case four children and the mother all developing the disease, and in another family no fewer than six members being laid aside by it. There was also a larger proportion than usual of new cases apparently set up by the infection being conveyed home by a child who had been treated at hospital for the disease, and who was unwittingly discharged whilst still capable of creating other cases in healthy children when brought in close contact with them. It is everywhere recognised that in the treatment of Scarlet Fever in Isolation Hospitals such "return cases" do occur from time to time, owing to the impossibility of learning by any known test when a convalescent from Scarlet Fever is quite free of the infecting germ or influence. On the whole we have been fortunate in this connection as compared with other places, where in some instances the "return cases" have been said to amount to 7 or 8 per cent. of all cases discharged from hospital. In Cheltenham last year another case arose in the same family and in the same house within 21 days of the return home of the first case nine times, which amounted to only 2·7 per cent of all cases discharged, and the per centage is not very materially increased when, instead of 3 weeks, 3 months is allowed for the second case to arise after the return home of the first case, and in a certain proportion of cases the return home will have only been a coincidence and not the cause of the second case. Notwithstanding these "return cases," it appears to me but common sense to allow the belief that Scarlet Fever is restrained by the use of Isolation Hospitals. Ordinarily one has no decided anticipation of a second case occurring in a house from which a first case is promptly removed as soon as the rash appears. Under such treatment I believe it must be the experience of all Medical Officers of Health that the removal of the case removes the liability of other cases of Scarlet Fever arising in the family, or in the school boarding-house, and that whilst "return cases" are to be regretted, there is no need to make too much of them, and that by taking the extra precaution of some additional convalescent treatment, after discharge from the hospital, every case can be rendered innocent of conveying the disease to other persons.

This last proposition is no doubt the one to insist upon when the patient is returning to a college boarding-house, or boarding-school, or elsewhere wherever it be practicable. Such additional isolation unconnected with the hospital is rarely practicable in dealing with children from poor houses. At the same time I do not think the matter at the present time, considering the type of Scarlet Fever lately met with, is of sufficient importance for a general advocacy of Scarlet Fever Convalescent Homes. I rather hope that the present great cost of treatment of Scarlet Fever cases may be reduced by some other means of treatment, than that it shall be enhanced by the general provision of such convalescent homes.

Inasmuch as in a town of this size Scarlet Fever is always in evidence—Cheltenham has at no time been quite free of the disease during the last 23 years—the infection is always present in greater or less degree. This infection is here, however, greatly limited, so far as the streets and houses of the town are concerned, by the immediate removal of cases to the hospital, and ordinarily, therefore, the amount of infection derived from existing cases in the town should not vary much. The number of beds available in the hospital has enabled us during the last two years of prevalence, for example, to remove the bulk of the cases from their houses, and so all the time to keep the streets nearly clear.

Generally, we remove to hospital somewhere between 90 and 100 per cent. of all cases notified, though last year exceptionally the numbers removed were rather fewer. This action, however, has not saved us from an increased incidence of the disease from time to time. The increase and decrease of the disease have, in fact, occurred in cycles of years, as may be noticed in the table giving the number of cases notified since notification began, and the use of Isolation Hospitals seems powerless to prevent this, though it does prevent the numbers in every year being as high as they would otherwise be. The influence, therefore, whatever it may be, that causes the cyclical increase is too strong to be entirely restricted by the free isolation of cases in hospital, even when you can practice the latter to a very full extent. It is difficult to believe that the increase of cases is due entirely to an upgrowth of new susceptible material. The likelihood appears greater that there are other external

influences at work, which are not yet clearly understood, and which would account for the constantly recurring increase and decrease of Scarlet Fever. The severity of the symptoms of the disease is everywhere modified, whether the cases occurring are few or many, compared with what it was 40 years ago, but if the impressions derived from my experience be correct, the infectiousness of the complaint still varies in a rather wide degree as between one period of time and another.

The hand-bill as follows was delivered amongst the inhabitants of the districts in which Scarlet Fever was prevalent by order of the Public Health Committee in the course of the year :

SCARLET FEVER.

WARNING TO PARENTS.

The spread of Scarlet Fever has again been caused by children having the disease being neglected by parents and guardians, and being allowed to go to school, and to freely mix with other people whilst in an infectious state.

Many cases of a mild kind have been looked upon as of slight consequence, whereas such cases are capable of producing more severe attacks in other persons. The mild cases themselves sometimes develop serious symptoms two or three weeks after the first signs of the Scarlet Fever have appeared, and children may then die or be seriously injured as the result of the disease having been neglected in the first instance. Though the rash disappears as a rule within a week, the infection of Scarlet Fever remains in the body commonly for as long as six weeks.

On account of the welfare of the patients, as well as on account of the danger from infection to other people's children, a heavy responsibility lies upon parents and guardians in connection with this malady. A child suffering from the slightest illness accompanied by any fine rash, though this be only of slight extent, should be seen at once by a doctor, who will notify the case to the Medical Officer of Health if it be Scarlet Fever.

Both the parent or guardian and the doctor are liable to prosecution for neglecting to notify the case, but the doctor's

notification is taken to cover the liability of the person responsible for the child. It is the parents' duty, however, to call in the doctor.

A parent, guardian or other person responsible for the patient may also be prosecuted for allowing the patient to mix with other people whilst in an infectious state, or for exposing any clothing or article liable to convey infection.

J. H. GARRETT, M.D.,

Medical Officer of Health.

*By order of the Public Health Committee,
Borough of Cheltenham.*

Diphtheria.

We received in 1914 the largest number of notifications of Diphtheria cases received in any year since notification began, namely, 103. The usual number, generally speaking, has been very moderate, the average not being quite the half of 103. On account of the practice in some districts adopted of freely swabbing throats with the view to discovering the diphtheria bacillus, and thus, so to say, making cases of Diphtheria of persons who show simply a red throat, or possibly no physical signs of the disease at all, a doubt now attaches to any quotation of the annual number of diphtheria notifications here or elsewhere. I do not personally practice or advocate the extensive swabbing of throats, excepting it be upon some special occasion, or for a special reason, but I am very anxious to receive and recognise notifications that can be made upon the exhibition of clinical signs of Diphtheria, and think it bad practice when the notifier, having the evidence of membrane, infected glands and toxæmia in some degree before him, hesitates to notify before obtaining a positive swab. Our 103 cases of last year did exhibit definite clinical signs, with very few, if any, exceptions. The death-rate was severe; there were 12 deaths, all in the persons of children, that is, nearly 12 per cent. of those notified died. In the previous year the case death-rate was 6 per cent., or only half of last year's per centage. The type of Diphtheria is very subject to variation, and the case death-rate will naturally be much lower where cases are called diphtheria upon bacteriological evidence without due reference to clinical signs.

The disease was most prevalent in the latter half of the year. Up to the end of June, 32 cases occurred, in the succeeding six months 71 cases. Scarlet Fever and Diphtheria were at their worst together, and at the same time there was a good deal of other throat affection, some apparently of an influenzal nature, other of the nature of acute tonsillitis, and perhaps a few cases resembling those of the peculiar kind of sore throat that I reported last year as having occurred as a definite invasion in 1913, and which appeared to be associated with a specific micrococcus.

The distribution of the notified Diphtheria cases in the town was fairly equal, and at no time was there any marked prevalence in any one quarter. The number for each ward was as follows :

North Ward	South Ward	East Ward	West Ward	Central Ward	Middle Ward	Total
22	21	19	10	11	20 ...	103

Opthalmia Neonatorum.

The first year of notification of this disease brought 9 cases to light. It is the inflammatory disease of the eyes with a purulent discharge occurring in the new-born child within a short time of birth, and usually due to an infection derived from the mother, who at the time of the birth may be suffering from a gonorrhœal discharge. It has been added to the list of diseases to be notified by order of the Local Government Board on account of its disastrous results in producing blindness.

The notification is required both by the midwives and doctors, and upon receiving the notification the chief action of the Medical Officer of Health must be to see that the case is not neglected until the damage to the eyes is done, but that the child be immediately placed under medical treatment, if it be not under such treatment already. The infectiousness of this disease has also to be impressed upon the midwife and others concerned. In each of the cases notified last year this was done.

Cerebro-Spinal Fever and Poliomyelitis.

Of the former of these two important diseases one case arose and proved to be solitary. The case of poliomyelitis was a year old, belonging to the outbreak which I recorded

in my last report. The case was recognised as a case of poliomyelitis so long after its origin by being taken to be treated for resulting paralysis, when the history of the case obtained by the doctor led to its notification.

Typhoid or Enteric Fever.

In every year a few cases of typhoid are notified. In regard to the 17 that were notified last year, several appeared to have been contracted outside the borough, others arose sporadically, and it is interesting to notice that 12 of the 17 cases occurred when no part of the water supply was from the river source.

ZYMOTIC DISEASES NOTIFIED in each month during 1914.										
Month.	Scarlet Fever	Diphtheria	Enteric Fever	Puerperal Fever	Erysipelas	Poliomyelitis	Ophthalmia Neonatorum	Infective Conjunctivitis	Cerebro-Spinal Fever	Totals.
January	27	2	4	...	5	...	...	...	...	38
February.....	25	8	3	...	6	...	...	...	...	42
March	14	9	3	...	4	...	1	...	...	31
April	12	4	1	...	7	...	...	...	...	24
May	17	5	1	1	1	...	2	...	...	27
June	19	4	...	...	2	...	...	...	...	25
July	18	12	...	1	3	...	1	1	1	37
August	17	14	...	...	2	...	2	...	...	35
September ...	28	7	2	1	3	...	...	...	...	41
October	50	13	3	...	2	1	1	...	...	70
November ...	59	13	...	1	1	...	1	...	...	75
December ...	42	12	...	1	3	...	1	...	...	59
The 12 months Totals	328	103	17	5	39	1	9	1	1	504
Tot'l no. treated in Hospitals...	273	86	9	2	...	1	...	...	...	371

Measles and Whooping-cough.

Measles was quiescent last year after a prevalence in the previous year, and the two deaths from whooping-cough were below the average number, which, however, is not high.

Erysipelas.

We received 39 notifications of this disease, which was a somewhat high number. Most cases occurred in the first four months of the year. Acute erysipelas of the face is a very definite disease which there is no mistaking, but chronic inflammatory conditions of the legs, such as are associated with cutaneous ulcers, are sometimes perhaps erroneously notified as erysipelas.

Vaccination.

The history of the Vaccination Laws appear to give plain proof of the necessity of making every law whose observance is required for the public good compulsory upon all classes of the community, for as soon as temporising is begun in the shape of exemptions by option, the utility of the law as counted upon for an effective measure is destroyed. When vaccination was compulsory the majority submitted without objection, but when exemption was allowed it became the increasing fashion to claim it, and where as formerly it was thought to be a minor ordeal for every child to go through as a matter of course, now it is a matter of widespread conscientious objection, notwithstanding the wonderful development of the so-called vaccine therapy, that is, the treatment of quite a number of diseases by the inoculation method, to which every patient submits willingly, though the beneficial effect is often far less certain than is the preventive effect of proper vaccination.

Small-pox has greatly diminished in England of late years, and how far this is due to improved sanitary methods, how far to the extension of the practise of isolating cases in hospitals erected for the purpose, and the following up of those who have been in contact with cases, how far to the vaccination now and previously practised, and how far to unknown causes, it is impossible to estimate. Of one thing, however, there is no doubt, namely, that vaccination is a security against small-pox of an extremely valuable character,

and that any harm to the subject vaccinated that can, or ever did, arise from vaccination when the multitude was subjected to it, has been grossly exaggerated.

The number of successful vaccinations performed in Cheltenham last year was 227, the number of births in the year being 791.

The following table shows the rate of decline of vaccination in Cheltenham during the last 10 years :—

Year	No. of Births in year	Successfully vaccinated	Per centage of vaccinations to Births
1905	995	609	61
1906	975	667	66
1907	881	565	64
1908	955	455	47
1909	949	460	48
1910	926	393	42
1911	943	383	40
1912	784	274	35
1913	784	252	32
1914	791	227	28

The Prevalence and Control over Tuberculosis.

As Cheltenham is not a county borough, the dealing with tuberculous patients under the Insurance Act, and in that connection, falls upon another authority, and I am consequently unable to give so full an account of tuberculosis in this town as would otherwise be the case.

In the year 1914 the number of tuberculous cases notified to me were as in the following table.

It will be remembered that original notifications of the disease are upon form A, whilst on form C and D notifications are received from doctors to Sanatoria and other institutions of the entrance into those institutions of cases (C), and of their discharge from such institutions (D). Form B is for the notification of cases by the School Medical Inspector of any school children found to be tuberculous.

I believe that most cases that occur now get notified in due course, as they occur, upon form A, nor do many appear to be forgotten upon entering and leaving the local institutions, as the numbers of discharges approximate pretty closely to the entrances.

The number of new tuberculous cases notified in 1914 in Cheltenham was 153 as against 160 in 1913, which latter was the first year of general notification of the disease.

The number of cases of pulmonary tuberculosis, or consumption of the lungs, was 115 last year as against 135 the year before, whilst the number of non-pulmonary cases, in which the disease attacked other parts of the body and not the lungs, was 38 as against 25 in the previous year.

It will, of course, require some considerable number of years to pass before any comparisons can be made that may suggest diminution or increase, as the case may be, of the disease in a given time, because there is likely always to be such considerable annual fluctuations as to cause a comparison over too short a period to be unreliable. The comparison must be made by comparing the cases that occur in a group of years, not less than five years forming the group, with other groups of preceding years of the same length. Four such quinquennia at the very least would be required, that is to say, it will require at least twenty years to pass before judgment can be made of the effects of the large expenditure and effort now being made with a view to diminishing tuberculosis in the human subject. The expenditure and effort is not, and should not be considered to be, for preventive purposes alone. It is largely directed to the better treatment of cases of tuberculosis for their cure or amelioration. The fact of all these cases being now officially made known places the whole matter in hand, and allows of its closer study and of greater possibilities of applying preventive and therapeutic means to the disease. Looked at in this way, the business, expensive and troublesome as it is, should be worth doing, for if the comprehensive system now established, wherein a large number of specialist Tuberculosis Medical Officers have been appointed all over the country to deal with the matter, be not for some good effect, then indeed the prevention and cure of tuberculosis must be hopeless.

Cases of Tuberculosis notified in Cheltenham during 1914.				
	FORM A.	FORM B.	FORM C.	FORM D.
As occurring in Cheltenham ...	153	...	...	...
As received into Institutions ...	...	...	48	...
As discharged from Institutions...	...	...	...	42

The pulmonary cases numbered, as has already been stated, 115 and the non-pulmonary cases 38. These 38 were very variously distributed, as below indicated.

Non-Pulmonary Cases of Tuberculosis notified in 1914.

Cervical-glands 3, Mesenteric-glands 2, Abdomen 1	6
Rib 1, Sterum 2, Hip-joint 4, Knee-joint 4, Spine 1, Femur 1, Shoulder 1	14
Fallopian tube 1, Peritoneum 2, Pleura 2, Meninges 3 ...	8
Skin of foot 1, Face 1, Nose 2	4
Ear 3, Testes 1, Eye 1.....	5
Miliary Tuberculosis	1
<hr/>	
Total	38
<hr/>	

Inquiries at the Homes of Notified Cases.

I received from the Nurse employed by the County Authority to make enquiries at the homes of notified cases of tuberculosis 72 formal reports within the year up to and including the last day of December, 1914. These reports give a considerable amount of information as to the nature of the illness, the family history, the condition of the home, and the precautionary measures being taken to avoid infection and the requirements in this respect.

The 72 cases enquired into were amongst the poorest of those notified during the year. 54 were pulmonary cases and 18 non-pulmonary.

24% of the pulmonary cases were confined to bed, or were in bed at the time of the visit.

40% of the pulmonary cases had an easily traced family history of tuberculosis and 28% of the non-pulmonary cases.

In 52% of the pulmonary cases the bedroom was occupied by the patient and a second person, who was commonly the husband or wife.

The same bed was occupied by a second person in 41% of cases.

The sanitary condition of the houses was good or fair, with a few exceptions of houses not being cleanly kept, of windows not opening by the top sash, of ventilation not being through, of want of dryness in Winter time.

There was very little technical overcrowding in houses, the families as a rule being small, though the rooms occupied were sometimes too small.

Any suggestions of insanitary conditions or overcrowding have been enquired into by an Inspector from my Department, and I have also supplied all the spitting flasks, disinfectants, etc., according to the indications of the Nurse's report.

The 72 formal reports that I received from the Nurse do not represent the whole of the visiting. They represent only the first visit to new cases, and besides these visits, the Nurses of the Cheltenham District Nursing Association (Victoria Home), acting under the instructions of the County officers, made numerous other visits, whether to these same cases or to others previously notified, that is to say, they are keeping up a visitation at intervals of a considerably greater list of cases than those that they visited for the first time last year, as indicated in the work of the Tuberculosis Dispensary tabulated below.

We have done a considerable amount of disinfection during the year of rooms that have ceased to be occupied by tuberculosis cases. It is the practice here to disinfect rooms and things in every case after the death of a phthisis patient.

Dispensary Treatment and Home Visits.

Dr. Arnott Dickson, the County Tuberculosis Medical Officer, gives me the following information concerning the working of the Tuberculosis Dispensary situated in Cheltenham and serving the town and district. The numbers refer to the borough of Cheltenham exclusively :

New cases examined at Dispensary in 1914	....	....	115
Total attendances at Dispensary	....	....	406
Cases under observation	...	...	326
Home visits by Nurses	...	...	984

Institutional Treatment.

The Institutions involved in the admission and discharge of Cheltenham cases last year, according to the notifications on forms C and D received, were as follows :

			Admitted	Discharged
Cranham Lodge Sanatorium	...	...	38	34
Cheltenham Workhouse Infirmary	...	...	10	8
Winsley Sanatorium	...	...	—	1
St. Michael's Home, Axbridge	...	...	—	1

Sanitary Circumstances and Administration of the District.

The Delancey Hospital.

This is the hospital for infectious diseases for Cheltenham and the district, and was named as above when first instituted 40 years ago on account of its having been founded as the result of a legacy by the late Miss Delancey. Its original mode of management was by twelve trustees whose members were maintained by self-election, and for many years they ran the hospital independently on the lines of a charity hospital, combined with the principal of payment by patients, and partial right of use by annual subscription on the part of householders, or members of the public.

The use of the hospital was very limited for some years, and though from the earliest days an arrangement was made between the Town Council, as Sanitary Authority, and the Board of Trustees, by which the Town Governors could make use of the hospital by certain payments agreed upon, but little such public use was made of the hospital up till the passing of the law requiring the notification of the more important infectious diseases to the Medical Officer of Health. Since then the hospital has found its chief use by the Medical Officer of Health as an important adjunct to his Public Health Department.

The organisation set up by Acts of Parliament for the public management of infectious diseases was in opposition to the idea of an infectious diseases hospital being carried on by an independent and private body, such as the Delancey Hospital Trustees, who were never endowed with any public health powers, and had never any right to consider themselves more than receivers of cases for isolation and treatment. But the Trustees exhibited considerable inability to recognise the position of one party and another, and clung to the independent management of their hospital for long after the management of all other such hospitals in the country had become merged in that of the general public-health service of the districts such hospitals served. A minority representation on a committee of the Trustees more nearly connected with the hospital management was accorded to the Town

Council at length, in recognition of the large sums of money paid by the Council as chief user of the hospital. The Trustees, however, appeared extremely loth to recognise that an infectious diseases hospital is part and parcel of the means required to deal with infectious diseases for the protection of the public by the local Sanitary Authority, and it became the duty of the Medical Officer of Health here to represent the required alteration of management, not a pleasant or personally advantageous duty in face of an influential opposition, but persisted in by an advocacy in these Annual Reports, and otherwise, for some years.

The Delancey Hospital Trustees in the end made a surrender by placing the hospital in the hands of the Charity Commissioners with a view to its being handed over to the Cheltenham Town Council and the two minor bodies who, together with the town of Cheltenham, have been recognised as having a right to use the Hospital, namely, the Cheltenham Rural District Council and the small adjoining Urban District Council of Charlton Kings. These public Councils have now taken over the hospital, and have agreed upon the formation of a joint board of management, with nomination by each of members for this board, and contribution of cost of maintenance of the hospital, more or less in accordance with the relative importance as judged by population of each contributing district, and the use severally made of the hospital by the three bodies.

A scheme to this effect has lately been approved by the Local Government Board, to whom it was submitted by the Charity Commissioners, and the Local Government Board made their agreement to the scheme subject to one proviso : that the part of the Delancey Hospital hitherto devoted to the reception of small-pox patients should be removed to a site more remote from surrounding population. This presumably will be one of the first works to be considered by the new board of management of the hospital.

Incidents of the War and the Local Public Health Service.

BILLETED TROOPS.—The great war, which broke out during last year as a result of the German determination to exercise a dominating influence throughout the world at the expense of all other civilizing influences, resulted throughout

our Empire in a voluntary military movement of extraordinary enthusiasm and extent, and quickly filled this country with large numbers of training soldiers. These were at first accommodated upon the open ground in canvas camps, but as the winter season advanced and proved itself to be an abnormally wet one, it became imperative to find better quarters for the new soldiers, and amongst other means resort was had to billeting the troops in towns. This billeting was done in one or the other of two ways. The men in numbers varying from one to a few, according to the spare room existing, were placed in small houses to be fed and cared for by the ordinary occupiers. Or large void houses were commandeered in a town and all the rooms appropriated, chiefly for sleeping and lavatory quarters, for as many men as could be conveniently located within them. It was this latter mode which was adopted in Cheltenham, nearly forty empty houses being requisitioned for the accommodation of a couple of Gloucestershire Battalions, but a section of Army Service Corp men were also here billeted by the other method, in small houses. Special and adequate arrangements were made by field kitchens situated outside the billets of the battalions for victualling purposes, whilst several halls in the town were fitted up as comfortable sitting rooms for indoor rest and recreation under the title of "Soldiers' Clubs" or "Soldiers' Welcomes," this provision being made by the towns-people, numerous ladies especially interesting themselves in the movement and giving their unstinted services for the successful management of these institutions. The Montpellier Rotunda took the premier position in this respect, and was a very popular resort where the men could also regale themselves with some variety of refreshments.

When it was determined to billet troops in Cheltenham, my department was approached by the Military Authorities to co-operate in the selection of houses and in the maintenance of their sanitary condition during their occupation by the soldiers. The apartments were all personally inspected in the first instance, both before and after their occupation, by your Medical Officer of Health and your Chief Sanitary Inspector, and the latter has since maintained a regular weekly inspection of the premises, being accompanied by an escort provided by the Commanding Officer. An inspection of the food supply has also been similarly exercised, and I

believe these inspections have been very assisting for the purposes intended. The Medical Officers of the Royal Army Medical Corps in charge of the troops located here, and other officers connected with the troops, and your Medical Officer of Health, have worked in co-operation in the manner advised by the Local Government Board. They have met from time to time and had numerous intercommunications upon matters affecting the town and the troops, including a weekly or more frequent report to the Military Medical Officer of the infectious cases notified in Cheltenham, and an immediate report to your Medical Officer of Health of notifiable infectious cases occurring amongst the soldiers. of which happily there have been but few. Upon coming from the encampment into the billets a severe catarrh of influenzal type attacked the men, but the serious cases of any kind that have had to be invalided to the house appropriated for military hospital use have been quite limited in number. The Delancey Hospital for Infectious Diseases has been available in connection with infectious cases, but apart from two chance cases notified as Scarlet Fever, and one that was thought to be Diphtheria, there has been no call upon its wards on behalf of the troops. No case of Enteric Fever has arisen amongst them to date of writing this report.

HOSPITAL FOR WOUNDED SOLDIERS.—A large private residence in the town—New Court—has been lent by the owner and fitted up for the purpose of a hospital for the wounded under the management of the Royal Red Cross Society, and has dealt with considerable numbers of Belgian and British wounded from the seat of war. No notifiable infectious case has occurred amongst the inmates of this institution since its establishment.

BELGIAN REFUGEES.—A number of refugee Belgians have found a temporary domicile here, some privately, but for the main part in houses appropriated to their use. Although the introduction of a foreign population of this sort, and under these conditions, might be judged to be fraught with a danger of introducing some infectious disease into the town, nothing in this connection has come to light beyond the report of one refugee having been in contact aboard ship with a small-pox case. The usual precautionary enquiries and warnings in regard to this case were exercised, and no harm resulted. Upon the establishment of homes for

the reception of Belgian refugees the attention of the managing committee was directed by your Medical Officer of Health to the desirability of definitely appointing Medical Officers to examine and be in attendance upon the refugees, and this advice was adopted.

New Municipal Offices.

The year 1914 saw the provision of new offices for the work of the Town Council, this being the realisation of a demand based upon a much-felt need that has been postponed repeatedly during the past twenty years. Moved by the consideration of economy, the Council have not erected a new building, but have converted five houses in the centre of the large terrace in the Promenade into Municipal Offices. The Health Department is provided with ample space, including separate apartments for chief and assistant officials, a laboratory for chemical and microscopic work, and all necessary offices for the medical department of the Education Committee, including a new clinic for treatment of minor ailments in school children, combined with a cleansing station for verminous children. These latter premises are approached conveniently from the back road, and comprise three capacious rooms in the basement, together with bath-room, steam disinfector or vermin destroyer, and suitable fitments. The rooms of the clinic, which originally were underground kitchen, scullery, and housekeeper's room, have been made suitable and hygienic for their present purpose by a proper treatment of the walls and floors, with additional lighting, etc., in accordance with the indications of your Medical Officer of Health, and their use, which has already begun, is likely to be effective for much good through many years. The whole building is practically now complete, and the various departments will be in occupation by the time this report is printed. As there are four storeys above the basement, and the offices of my department and those of the Education Committee are on the third and fourth floor, it is quite essential for their use that the lift be promptly completed. There is a constant stream of complainants, persons seeking information as to Notices that have been served, doctors, and other members of the public who will be inconvenienced and averse to climbing by the stairs to such a height. In fact, the want of the lift must render the offices apportioned to my Department unfit for their purpose.

Sewage Disposal and Sewers.

Since last year the new Sewage Disposal Works, consisting of an extensive system of tanks and filters, were completed, and, with the exception of certain subsidiary works connected with the new system of sewage treatment, the recommendations of the Borough Engineer, which were approved and deemed sufficient by the Local Government Board, have been carried out. The subsidiary works referred to are connected with the provision of humus tanks, and the prevention of flooding by storm water. Apart from amendments to sewers, which have developed such defects as to render reconstruction immediately necessary, no further progress has been made with the scheme for resewering the South-Eastern District, for which work sanction was obtained from the Local Government Board some years ago to spend £18,000.

The Water and Milk Supply.

No difference has taken place in our water supply since my last report. Considerable expenditures were somewhat recently made on account of water purification, and for the prevention of growth of troublesome water plants, and there has hardly yet been time to estimate their effect. I am not advising further expenditure in this direction for the present.

In regard to milk production and supply, I believe that the producers are somewhat more careful in endeavouring to keep the milk clean, and there may be some improvement in the condition of the animals that yield the milk, particularly as regards tuberculosis. But we are here, as everywhere else, still a long way from a perfectly pure and satisfactory milk supply. We hope to be assisted by the new Act of Parliament concerning milk production and traffic, the management of dairies, &c., whose operation has been postponed on account of the war until next autumn. We shall be dependent under this Act upon the Local Government Board ordering a new set of Regulations, and these should include a means of controlling the number of places where milk is retailed, which are at present too numerous, and not always appropriate for the purpose, for various reasons.

School Hygiene.

The attention given to this subject, which led a few years ago to the passing of a law requiring the establishment

of a systematic medical inspection of school children, has proved a most important introduction in the matter of public health administration. Formerly, for the main part, public health measures have been operative upon things and circumstances affecting life and health, but here we have a work that operates upon the living person. For any good to accrue to the medical inspection of children, the defects, actual or threatened, that are discovered by the inspection need to be treated for cure or prevention, and where provision is made for this, the work promises to have a considerable effect upon the physical and moral development of the nation.

This work has required here the appointment of an assistant medical officer, and is now thoroughly organised both as to inspection and treatment. With the adoption of a scheme for dental work the whole business will be complete. A thorough inspection and report upon the condition of the schools here was made nine years ago by your Medical Officer of Health, and since that time all the more important recommendations of that report have been adopted, leading to a great improvement in the general sanitary state of the schools, which is maintained by a systematic inspection, including a special annual inspection by your Medical Officer of Health in company with the Sanitary Inspector, when notes are taken of the present state of the schools and their appurtenances, and of the work done, or left undone, or now requiring to be done, with following representations to the Education Committee and the School Managers.

Return of Articles submitted to the Public Analyst during the year 1914, with the results of the Analyses.

(G. Embrey, Esq., Gloucester, Public Analyst.)

Samples submitted by Superintendent A. W. Hopkins.

1st Quarter.

1	samples of	Butter, genuiue.
8	„ „	Cocoa, „
1	„ „	Gin, „
13	„ „	Milk, 8 genuine, 5 with added water in quantities varying from 8 to 13 per cent. Three prosecutions, 1 dismissed on payment of 10/6 costs, the other two fined £3 and 19/- costs.
1	„ „	Pepper, genuine.
2	„ „	Whiskey, „

2nd Quarter.

1	„ „	Beeswax, genuine.
17	„ „	Cream. Boric acid found in 10, 5 prosecuted and fined 5/- each.
1	„ „	Citric acid, genuine.
1	„ „	Gin, „
1	„ „	Ground rice, „
4	„ „	Milk, „
1	„ „	Pepper, „
1	„ „	Potted meat, „
2	„ „	Whiskey, „

3rd Quarter.

2	„ „	Gin, genine.
8	„ „	Milk. 2 deficient in fat, 1 6% water added. Samples informally collected and no prosecution.
1	„ „	Pepper, genuine.
4	„ „	Whiskey, „

4th Quarter.

1	„ „	Butter, genuine.
1	„ „	Coffee, „
7	„ „	Cream. Boric acid in 3, but samples informally collected and no prosecution.
2	„ „	Gin, genuine.
7	„ „	Milk, „
3	„ „	Whiskey, „

Summary of Routine and other Sanitary Work done in the Health Department during 1914, with Notes thereon.

Report by the Chief Sanitary Inspector.

I herewith submit my report, as Sanitary Inspector for the Borough of Cheltenham, on the work carried out by the Inspectors of the Health Department during 1914. The work done includes house-to-house inspections, the inspection of schools, houses-let-in-lodgings, common lodging-houses, slaughter-houses, food shops, bakehouses, cowsheds, dairies, milkshops, factories, workshops, workplaces, and outworkers' premises, the fumigation of rooms, and the disinfection of clothing, etc., after cases of infectious diseases.

It will be readily seen from the foregoing that the activities of the Department cover a wide field, which has been considerably extended in recent years by the development of Public Health legislation. We have endeavoured to keep pace with the demands made upon us, and have given attention to each branch of our work according to its importance.

The total number of inspections made during the year was 15,082. On 1,043 of the houses and premises dealt with nuisances to the number of 2,044 were discovered, and in dealing with the sanitary defects from which they arose 614 "preliminary" and 268 "statutory" notices were served.

The number of letters written and received with reference to the business of the department was respectively 427 and 342. In order to efficiently supervise sanitary work in progress arising out of notices served for the abatement of nuisances, 1,384 visits were paid.

The complaints received at the office numbered 425, as against 462 received last year. All these were duly investigated and dealt with as found necessary. Many of these were of the usual trivial character, and in a number of instances no nuisance could be discovered against which the complaint was made.

Every effort has been made to secure that the high standard of sanitation already reached in the borough shall

be maintained, and from the following tables summarising the work carried out during the past year it will be seen that great attention has been bestowed upon all conditions likely to affect the well-being of the inhabitants. The mere enumeration of the defects remedied conveys a most inadequate impression of the work done by your sanitary staff, because, in addition to the matters set out, a considerable amount of time is of necessity taken up in keeping various registers and records, in clerical work, in interviewing owners or agents of property, and other administrative work which cannot well be tabulated.

The total number of sanitary inspections of the district, with the results, are fully set out in the appended table:—

Sanitary Inspections of District and Results.

Total Number of Visits and Inspections	...	...	...	15,062
Ordinary Inspections	...	...	...	2,029
House-to-house Inspections	...	...	...	1,657
Inspections of Work in progress	...	...	...	1,384
Re-inspections	...	...	...	2,908
Visits to Slaughter-houses	...	...	...	2,232
„ Food Shops	...	...	...	1,242
„ Houses Let-in-Lodgings	...	...	...	58
„ Common Lodging Houses	...	...	...	331
„ Cowsheds, Dairies and Milkshops	...	...	...	205
„ Bakehouses	...	...	...	75
„ Workshops	...	...	...	503
„ Schools	...	...	...	45
„ <i>re</i> Infectious Disease	...	...	...	1,395
„ <i>re</i> Public House Conveniences	...	...	...	414
„ Places where Animals are kept	...	...	...	584
Complaints received	...	...	...	425
Number of Nuisances reported	...	...	...	2,044
„ Houses and Premises dealt with	...	...	...	1,043
„ Legal Notices served	...	...	...	268
„ Preliminary Notices served	...	...	...	614
„ Letters written referring to Notices	...	...	...	427
DRAINS :—				
Drains opened and examined under Sec. 41 P.H. Act, 1875	...	...	...	104
Smoke tests applied to Drains and Soil Pipes	...	...	...	253
Chemical	„	„	„	9
Water	„	„	...	528
Defective Brick Drains removed	...	...	...	19
New Drains laid	...	...	...	192
Length in yards of Stoneware Pipe Drains laid	...	...	...	3,017
„ „ Heavy Cast Iron Pipes laid	...	...	...	1,700
Manhole and Inspection Chambers provided	...	...	...	117
Intercepting Traps fixed	...	...	...	106

Stoneware Gully Traps fixed	...	...	...	418
Dip and Bell Traps removed	...	...	...	34
W.C.'s :—				
New Water Closets built	...	...	...	86
New W.C. Pans of the Wash-down type fixed	...	...	...	257
Old Pan Containers and Long Hopper Closets removed	...	...	...	151
Flushing Boxes fixed to W.C.'s	...	...	...	110
Flushing Boxes repaired	...	...	...	150
Water Closets and Drains unstopped	...	...	...	122
SOIL AND WASTE PIPES :—				
Soil Pipes and Ventilating Shafts fixed	...	...	...	112
New Waste Pipes trapped and disconnected	...	...	...	181
MISCELLANEOUS :—				
Rooms cleansed and limewashed	...	...	...	974
House Roofs, Rainwater Pipes, etc., repaired	...	...	...	114
New Glazed Sinks provided	...	...	...	204
Yards and Areas asphalted or concreted	...	...	...	106
Ash Receptacles (movable galvanized iron, with covers)	...	...	...	348
Bakehouses cleansed and limewashed	...	...	...	12
Slaughter-houses cleansed and limewashed	...	...	...	15
Common Lodging-houses cleansed and limewashed	...	...	...	5
Overcrowding in Dwellings abated	...	...	...	27
Samples of Water taken for analysis	...	...	...	16
Urinals provided with a proper supply of water	...	...	...	6
Manure Receptacles built or reconstructed	...	...	...	14
Accumulations of manure removed	...	...	...	95
INFECTIOUS DISEASES :—				
Inquiries into cases of Infectious Diseases	...	...	...	1,395
Notices to Schoolmasters and Schoolmistresses with regard to				
Infectious Diseases	...	...	...	220
Notices to Parents with regard to Infectious Diseases	...	...	...	220
Notices to Free Library with regard to	ditto	...	...	6
Articles of Clothing disinfected after	ditto	...	...	4,984
Rooms fumigated	...	...	...	556
Articles of Clothing, etc., disinfected for outside Sanitary Authorities				
and private persons	...	...	...	153

House-to-house Inspection.

Following the practice, which was in vogue here for many years prior to the passing of the Housing and Town Planning Act, 1909, of systematically inspecting houses under Sec. 92 of the Public Health Act, 1875, we have made 657 systematic house-to-house inspections of houses under £16 per year.

This is in accordance with the requirements of the Housing (Inspection of District) Regulations, 1910.

The following tables give the number of houses inspected in the various streets of the town, the number of houses occupied and void, and the number which on inspection were

found to be in a sanitary condition. It will be readily seen that in the majority of the houses examined they were found to have one or more defects in them.

In the 657 houses inspected no less than 973 defects were discovered.

The inspections revealed numerous structural defects, including damp house walls and floors, leaky roofs, defective eaves spouting and rainwater pipes, walls and ceilings dirty and in bad state of repair, defective paving of yards, etc.

A large number of houses were found to have bedrooms without fireplaces or other means of ventilation. These have been provided with special ventilating openings to the external air. Numerous cases of overcrowding were also found. This class of nuisance is often very difficult to deal with, as the people are frequently very poor and have large families, and find great difficulty in obtaining a house large enough to meet the requirements to avoid overcrowding and at a rent they can afford to pay.

NORTH WARD.

Name of Street.	No. of occupied houses in street.	No. of houses in which defects were found.	No. of houses without defects.	Total number of defects found.
Barnard's Row.....	5	5	0	23
Burton Cottages	11	3	8	5
Elm Street	27	14	13	20
Little's Court	3	3	0	26
Malvern Street.....	46	20	26	59
Worcester Street.....	49	15	34	54
Totals	141	60	81	187

EAST WARD.

All Saints' Road	40	20	19	61
Glenfall Street	26	17	9	93
Keynsham Street.....	26	22	4	98
Providence Square	12	7	5	22
Rosehill Street.....	88	51	39	132
Upper Park Street	59	40	21	117
Victoria Place	37	25	12	106
Winstonian Road.....	54	8	46	11
Totals	342	190	155	640

MIDDLE WARD.

Name of street.	No. of occupied houses in street.	No. of houses in which defects were found.	No. of houses without defects.	Total number of defects found.
Moorend Street	48	20	28	43
Brooksdale Cott	8	5	3	8
Totals	56	25	31	51

CENTRAL WARD.

Rutland Street	51	30	17	63
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WEST WARD.

Roman Road	68	13	55	32
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SUMMARY.

WARD.				
North Ward.....	141	60	81	187
East Ward	342	190	155	640
Middle Ward	56	25	31	51
Central Ward	51	30	17	63
West Ward	68	13	55	32
Totals	648	218	339	973

Housing and Town Planning Act, 1909.

Tabulated Statement of Houses dealt with during the year 1914, under Sec. 17 of the Act.

No. of dwelling-houses inspected under Sec. 17 ...	8
No. of such houses considered as unfit for human habitation	8
No. of representations made to the Local Authority ...	8
No. of Closing Orders made by the Local Authority ...	8
No. of houses made fit for habitation without Closing Orders	0
No. of houses made fit for habitation after Closing Orders	4
No. of Demolition Orders made	12
No. of such houses in respect of which Notices were served during 1914	8

General Character of Defects found.

- (1) Lack of sufficient light and ventilation.
- (2) Insufficient water supply.
- (3) Lack of proper w.c. accommodation.
- (4) Damp and dark rooms.
- (5) Lack of conveniences for decent living, *e.g.*, proper facilities for cooking and storing food, washing accommodation.
- (6) Overcrowding.
- (7) Defective drainage.
- (8) Defective yard paving.
- (9) Defective ash receptacles.
- (10) General dilapidations.

Houses declared Unfit for Human Habitation.

Woodbine Cottage, Hester's Way.

52, Rutland Street.

53, Rutland Street.

13, King Street Gardens.

14, King Street Gardens.

27, Sun Street.

11, Grove Street.

Folly Cottage, Folly Lane.

Four houses closed during 1913, viz., 231, High Street, 47, 47b and 51, Duke Street, have been thoroughly repaired and brought up to our requirements as set out in the specifications supplied to the owners of the properties. An order determining the Closing Order was made in each case by the Local Authority.

The following 18 houses have been demolished :—

9 to 13, Hereford Place.

1 to 4, Hereford Court.

1 to 6, Barnes' Yard, Grove Street.

1, 2 and 3, Swindon Passage.

Cottage at the rear of 231, High Street.

In respect to 10 houses, the owners did not wait for Demolition Orders to be made against their properties, as they realised that it was impossible to make the houses fit for human habitation, owing to their numerous structural defects. Four houses are now being made fit for human habitation in accordance with the specifications we have supplied to the owners.

House Drainage

A large amount of work is always necessary if private drains are to be kept in good order. A good deal of time and attention has again been paid to the condition of house drains.

The Public Health Committee authorised me in 124 cases to open the ground and examine the drains under Sec. 41 of the Public Health Act, 1875, and in 104 instances it was found necessary to call upon the responsible person to take up the defective drains and replace them by new drains of glazed stoneware or heavy cast iron water main coated pipes.

In addition to the work done under notice, a good deal of drainage work has been done to obtain the Corporation Sanitary Certificate, and also by verbal notice.

Altogether we have supervised the laying of 3,017 yards of stoneware pipes and 1,701 yards of heavy cast iron coated pipes with blue lead joints, also the fixing of 106 intercepting traps, 418 gully traps, and 117 manholes and inspection chambers. In connection with this work 19 old brick drains were removed and replaced by watertight drains, and 35 defective drain traps removed and replaced by stoneware or iron gully traps of the roundway form, and 528 water tests, 253 smoke tests, and 9 chemical tests were applied to drains and soil pipes. These figures include the testing of drains in sections and the final test.

A survey has been made of every house and premises where the drains have been relaid and plans of such drains have been filed for future reference. These plans, of which we have now 1320, form a valuable record of the drainage work done in connection with existing buildings in this town.

Corporation Sanitary Certificate.

There were 41 applications made for the Certificate last year.

The total number of Certificates issued since the commencement of this work is 1069. The aim of the Certificate is to guarantee that the drainage, appurtenances, and general sanitary condition are as perfect as they can practically be made.

Sometimes it may happen that defects exist in connection with the site and the build of the house, which do not admit

of alteration, but these are readily detected and the prospective tenant can readily decide for himself whether he will take or leave the house on this account. But in regard to sanitary appliances, of which he will often have an imperfect knowledge, the Certificate is evidence of a searching examination having been instituted and every possible effort made to bring the drainage system and sanitary fittings up-to-date.

This is, of course, a more comprehensive matter than the rectification of any particular defect leading to a nuisance of which complaint has been made, and considerable outlay is often required on the part of the owner to comply with the requirements for a Certificate. As usual, the inspections made during the year for Certificates have resulted in revealing serious defects in the drainage system ; insanitary fittings and untrapped waste pipes. Drain air and foul air from the dirty waste pipes in such cases having free access to the house. The air in houses is often dangerously contaminated by defective drainage and insufficiently or improperly trapped fittings. Those who are about to take a house are strongly urged to protect themselves by insisting upon an up-to-date inspection, and no answer or assurance that the drains are all right should be accepted in lieu of a recent Certificate of sanitary soundness of the drains and sanitary fittings.

SANITARY CERTIFICATES.

Situation of Premises.				Gross Annual Value.
Audley, Christ Church Road	...	...	...	£75
Beechworth Lodge, Hales Road	...	...	...	42
Berkeley Street, 1	...	...	...	36
Benton House, The Park	...	...	...	160
Breckenbrough, Sydenham Road, E.	...	...	...	100
Cotswold Lodge, Pittville Circus Road	...	...	...	117
Conyers, Queens Road	...	...	...	40
Corinth House, Bath Road	...	...	...	110
Cambridge Villas, 3	...	...	...	85
Drummond House, Pittville Crescent	...	...	...	76
Darley Dale, Libertus Road	...	...	...	40
De Mara, Douro Road	...	...	...	60
Eldersfield, King's Road	...	...	...	60
Fernlea, St. Luke's	...	...	...	22
Florence House, Columbia Place	...	...	...	35
Glendale, King's Road	...	...	...	32
Glenvale, Hewlett Road	...	...	...	60
Hatherley Lawn, Lansdown Road	...	...	...	140
Imperial Square, 27	...	...	...	48

Situation of Premises.				Gross Annual Value.
Keynshambury House, High Street	...	...	...	£60
Langton House, Bath Road	...	...	...	90
Lypiatt Terrace, 5	...	...	...	50
Lansdown Parade, 3	...	...	...	30
Lansdown Parade, 1	...	...	...	48
Lypiatt Terrace, 15	...	...	...	60
Lypiatt Terrace, 4	...	...	...	52
Longmeade, St. Mark's	...	...	...	65
Leckhampton Lodge	...	...	...	60
Morley, Cranham Road	...	...	...	70
Moulton, Tivoli Place	...	...	...	28
Montpellier Terrace, 8	...	...	...	40
Orchard Priors, Battledown Approach	...	...	...	60
Porchester, Leckhampton Road	...	...	...	36
Pittville Lawn, 7	...	...	...	55
Royston, Hatherley Road	...	...	...	65
St. Stephen's Lawn, 2	...	...	...	65
Sherwood, St. Stephen's Road	...	...	...	50
Trediden, Hewlett Road	...	...	...	42
Tyndale, Clarence Square	...	...	...	40
Wellesley House, Wellington Square	...	...	...	50
Yetholme, Leckhampton Road	...	...	...	50

Inspections under the Factory and Workshops Act.

The whole of the workshops (including bakehouses, workplaces, and outworkers' premises) have been visited during the year. The total number of workshops and workplaces now on the register is 463, and to these 604 visits have been made. The Local Authority is responsible for the sanitary condition of the workshops, workplaces, and the homes of outworkers in the district.

Sanitary conditions include (a) cleanliness, (b) overcrowding, (c) ventilation, (d) drainage of floors of workshops in which any process is carried on which renders the floors liable to be wet and which is capable of being removed by drainage, (e) sanitary conveniences.

CLEANLINESS.—The walls or ceilings of 121 workrooms were found to be in a dirty condition. The necessary cleansing has been carried out in every case.

OVERCROWDING.—Three workrooms were found to be badly overcrowded. Notices were served on the responsible persons, and the overcrowding was abated. Seventy-one workrooms were measured up, and cards setting forth the measurements of each room have been supplied to the occupiers stating how many persons can be employed in each room.

VENTILATION.—Five workrooms were found to be without satisfactory means of ventilation, and these have been supplied with suitable inlet and outlet shafts.

DRAINAGE OF WET FLOORS IN LAUNDRIES, ETC.—The floors of these places were generally found to be in a satisfactory condition.

SANITARY CONVENIENCES.—Two workshops were found to be without proper sanitary conveniences, and 25 were found to have unsuitable or defective sanitary arrangements. Suitable and sufficient closet accommodation has been provided where necessary, and the defective water closets have been repaired and put into good sanitary condition.

OUTWORKERS.—The names and addresses of 153 outworkers were received from 29 employers.

During the year 221 visits were made to outworkers' premises and 47 defects discovered and rectified. In the majority of these places the work was carried on under very satisfactory conditions. In no instance was any case found where wearing apparel was being made, cleaned or repaired in a house in which any inmate thereof was suffering from any infectious disease. Nor was it necessary for any action to be taken to obtain any order prohibiting home work being done in an infected house.

BAKEHOUSES.—The number of bakehouses now on the register remains as last year, viz., 55. Of these, 46 are above ground and 9 are underground. The underground bakehouses have all been certified by the Sanitary Authority as being suitable with regard to their construction, lighting, ventilation, water supply, drainage, and in all other respects, having been extensively altered to the satisfaction of the Corporation to meet the requirements of the Factory and Workshops Act, 1901. The whole of the bakehouses have been regularly inspected and have been kept in a clean and satisfactory condition.

Report on the Administration of the Factory and Workshops Act, 1901, in connection with Factories, Workshops, Laundries, Workplaces and Homework.

1.—INSPECTION.

Premises.	Number of Inspections.	No. of Written and Verbal Notices.	Number of Prosecutions.
Factories (including Factory Laundries.)	22	6	Nil
Workshops (including Workshop Laundries.)... ..	503	64	„
Workplaces (other than Outworkers' premises included in Part 3 of this Report)	79	10	„
Total	604	80	„

2.—DEFECTS FOUND.

Particulars.	Number of Defects found	No. of Defects remedied.
Nuisances under the Public Health Acts :		
Want of cleanliness	121	121
Want of ventilation	5	5
Overcrowding	3	3
Other nuisances	25	25
Sanitary accommodation {insufficient	2	2
{unsuitable or defective	14	14
{not separate for sexes ... ..	...	...
Total	170	170

3.—HOME WORK.

Lists received from Employers.

Nature of Work.	Twice in the year.		Once in the year.	
	Lists.	Outworkers.	Lists.	Outworkers.
Making and Altering Wearing Apparel...	28	132	29	153

4.—REGISTERED WORKSHOPS.

Workshops on the Register (s. 131) at the end of the year.—(1).						Number.—(2).
Dressmakers	...	...	...	...	...	78
Tailors	...	...	...	...	...	57
Laundries	...	...	...	...	...	96
Bootmakers	...	...	....	...	...	44
Milliners	...	...	...	...	...	24
Bakehouses	...	...	...	...	....	55
Miscellaneous	...	...	....	...	...	109
Total number of Workshops on Register...						463

5.—OTHER MATTERS.

Class.	Number.
Matters notified to H.M. Inspector of Factories ...	2
Failure to affix Abstract of the Factory and Work- shop Act (s. 133)	1
Notified by H.M. Inspector of Factories	9
Reports (of action taken) sent to H.M. Inspectors	5
Underground Bakehouses (s. 101)	9
Certificates granted during the year	Nil
In use at the end of the year	7

Slaughterhouses.

The number of private registered slaughterhouses in the borough is 17, and to these 2,232 visits have been paid. By far the larger number of these visits have been made in the evenings as it is then when most of the slaughtering takes place in our private slaughterhouses.

The bye-laws relating to the periodical limewashing of the slaughterhouse walls, the removal of garbage, offal, skins, etc., have on the whole been well observed.

Meat Inspection.

A very large amount of time and attention has been devoted to meat inspection during the past year. The

following table shows the number of animal carcasses we have inspected during the last and previous year.

Number of Carcasses Examined at Private Slaughterhouses during 1913 and 1914.

	1913		1914
Beeves	813	.....	1,235
Calves	68	.....	98
Sheep	3,667	.....	6,358
Pigs	2,343	.....	3,503
	<hr/>		<hr/>
Totals	6,891	.....	11,194
	<hr/>		<hr/>

It has been our endeavour to make the standard of inspection in the private slaughterhouses equal to that which obtains at the Public Abattoir, viz., that no animal or organs are removed from the slaughterhouses to the shops until they have been examined. Whilst we have not been able to come quite up to this high standard very few animals slaughtered have escaped inspection. We have received considerable assistance in this work from several butchers who have notified us, either by the telephone or by verbal messages, when they were about to commence slaughtering, so that we were enabled to inspect the carcasses and organs before they were exposed for sale.

Every occupier of a slaughterhouse who knows or has reason to believe that any animal brought to his slaughterhouse to be slaughtered is in a diseased or unsound condition is required to give prompt information thereof to the Inspector of Nuisances.

Many of the butchers have informed me, as required by the above bye-law, when they had any doubts as to the soundness of any animal, and on all occasions willingly surrendered for destruction the carcase or part of any animal which was represented to them as being unfit for human food.

The amount of meat slaughtered in adjoining districts and afterwards brought into the town is now very small compared to what it was a few years ago. This is due chiefly to the opening in the town of wholesale foreign meat shops.

The amount of meat surrendered in 1914 was much greater than in 1913. The number of beasts and pigs condemned on account of their being affected with tuberculosis is nearly the same as last year. There has been a large increase in the number of pigs destroyed; no less than 19

were condemned on account of their being killed whilst suffering from swine erysipelas. The carcasses of 2 heifers, 1 cow and 14 pigs were destroyed on account of their being affected with tuberculosis.

Unsound and Diseased Meat, etc., Destroyed last year as Unfit for the Food of Man.

3 Carcases of Beef	...	Tuberculosis.
1 Carcase of Beef	...	Septicæmia.
1 Carcase of Mutton	...	Acute pneumonia.
2 Carcases of Mutton	...	Emaciation.
1 Carcase of Mutton	...	Pleurisy and pneumonia.
1 Carcase of Mutton	...	Nephritis and jaundice.
8 Bacon Pigs	...	Tuberculosis.
6 Pork Pigs	...	Tuberculosis.
16 Pigs	...	Liver disease and dropsy.
19 Pigs	...	Swine erysipelas.
4 Pigs	...	Liver disease and pneumonia.
2 Pigs	...	Peritonitis and pleurisy.
3 Pigs	...	Jaundice.
4 Pigs	...	Emaciation.
16 Hindquarters of Beef	...	Unsound.
3 Forequarters of Beef	...	"
18 Sirloins and Rumps	...	"
8 Pieces of Pork	...	"
1 Box of Tripe	...	"
2 Boxes of Codfish	...	"
2 Boxes of Mackerel	...	"

Seven hundred and nineteen livers, lungs or other internal organs of animals which were, on examination, found to be locally diseased, were surrendered and destroyed.

The total weight of meat, fish and unsound food destroyed was 8 tons 13 cwts. 6 lbs.

Legal proceedings were taken against a butcher for exposing unsound meat for sale, and he was convicted and fined £5 and costs.

Number of Animals slaughtered in the Abattoir during 1913 and 1914.

	1913		1914
Beeves	572	.....	689
Calves	612	.....	452
Sheep	4,474	.....	4,101
Lambs	383	.....	358
Pork Pigs.....	1,679	.....	2,301
Bacon Pigs	76	.....	122
	-----		-----
Totals	7,796		8,023
	-----		-----

List of Butchers who regularly used the Abattoir during the year.

Butchers.

Mr. Smith	...276, High Street
Mr. L. James	...21, Upper Bath Street
Mr. E. T. Drew	...95, Winchcombe Street
Mr. J. Hayward	...2, St. Mark's Emporium, Gloucester Road
Mr. J. Smith	...High Street
Mr. F. P. Carrick	...294, High Street
Mr. G. Dickenson	...Prestbury
Mrs. Pryer	...308, High Street
Mr. W. F. Pleydell	...288, High Street
Messrs. A. D. & D. Downham	...61, Upper Bath Road
Mr. G. Hannis	...307, High Street
Mrs. G. M. Davis	...Montpellier Street
Mr. P. M. Nash	...402, High Street
Mr. G. Willis	...Regent House, Swindon Road
Mr. A. A. Hathaway	...Shurdington Road
Mr. P. Comely	...Portland Terrace
Mr. Jackson	...High Street
Mr. Jackson	...Winchcombe Street
Mr. G. Freeman	...91, Winchcombe Street
Mr. J. E. Whitmore	...Tivoli Villas
Mr. S. Rogers	...Montpellier Street

Disinfection.

One thousand three hundred and ninety-five visits were paid in connection with the cases of infectious diseases which occurred in the district during the year, in order to make the necessary inquiries and to carry out the work of disinfection.

In regard to the measures taken to prevent the spread of infectious diseases 4,984 articles of clothing, bedding, etc., were removed from the various homes to the steam disinfecting apparatus, 556 rooms were fumigated with formic aldehyde vapour or sulphur, and the walls of the rooms were stripped and cleansed where necessary.

The following table gives the number and kind of goods disinfected at the steam disinfection station :—

Aprons ...	50	Coats ...	35	Gloves ...	14
Baskets ...	6	Collars ...	50	Handkerchiefs	106
Beds ...	159	Corsets ...	20	Hair Brushes	7
Bodices ...	20	Chairs ...	6	Hats ...	12
Blankets ...	579	Cloaks ...	12	Hassocks ...	8
Blouses ...	20	Curtains...	23	Jerseys ...	14
Boys' Suits ...	18	Cushions	82	Jackets ...	49
Bolsters ...	275	Dresses ...	26	Mats ...	28
Carpets ...	32	Dressing Gowns	38	Mattresses ...	331

Overalls...	...	8	Scarves ...	...	34	Tableclothes ...	14
Pyjamas...	...	6	Sheets ...	...	283	Toiletcloths ...	46
Palliasses	...	6	Shawls ...	...	47	Trousers ...	10
Pants ...	...	30	Shirts ...	...	88	Ties ...	18
Petticoats	...	33	Skirts ...	...	36	Towels ...	120
Pillows ...	...	572	Stockings	...	94	Vests ...	25
Quilts ...	...	293	Sweaters	...	10	Miscellaneous	592
Rugs ...	...	96	Sofas ...	...	3		

Total number of Articles Disinfected ... 4,984

Cowsheds, Dairies and Milkshops.

There are 66 milkshops and 16 dairy farms within the borough. Two hundred and five visits and inspections of these places have been made to see that the orders and regulations relating to these trades were being duly observed. Generally speaking, there was little cause for complaint.

During the year there were seven applications received from persons desiring to commence the trade of milk-seller. Careful inspection of the premises and their sanitary arrangements proving satisfactory, the Public Health Committee decided to register five of them ; the remaining two withdrew their applications on account of the unsuitability of their premises for carrying on such a trade.

Stables and other Places where Animals are kept.

All the stables in the borough and other places where animals are kept are visited periodically, and efforts are made to secure that they are maintained in a reasonably sanitary condition. The most frequent causes for complaint arise from the non-removal of manure and dirty condition of pigstyes. The following tables give a list of the nuisances discovered and abated in connection with the keeping of animals during the year :—

Stables and Manure Receptacles.

Accumulations of manure removed on notice	...	95
Manure receptacles without cover	...	5
Insufficient	...	4
Defective	...	7
Defective paving of floor of stables	...	6
No drainage of stables	...	3
Blocked drains of stables	...	8
Notices served <i>re</i> stables and manure receptacles	...	72

Pigs and Pig-styes.

Dirty condition	...	...	...	15
Defective paving	...	...	...	17
No proper drainage	...	...	...	11
No cesspool or catchpit	...	...	...	14
Overflowing cesspool	...	...	...	6
Pigs kept in contravention of bye-laws	...	...	...	3
Uncovered cesspool and catchpit	...	...	...	8
Accumulation of manure	...	...	...	24
Notices served <i>re</i> pigs and pig-styes	...	...	...	67

Offensive Trades.

The offensive trades carried on in this town are fortunately few in number. They are as follows :—

3 Fellmongers.
 1 Tallow Melter.
 18 Rag and Bone Dealers.
 20 Fried Fish Shops.

The bye-laws regulating these places have on the whole been well observed, although it has been necessary to occasionally call attention to the desirability of removing garbage, etc., more regularly, and for the thorough cleansing of the floors and yards at the close of each working day.

Common Lodging Houses.

The number of Common Lodging Houses now on the register is eight. Four of these have been re-registered. The houses with their accomodation are as follows :—

20 and 21, Stanhope Street	...	...	21 Lodgers.
40, Stanhope Street	...	...	10 „
Cumberland Cottage, Grove Street	...	...	23 „
Cumberland House, Grove Street	...	...	31 „
Cumberland Villa, Grove Street	...	...	21 „
2 and 4, Grove Street	...	...	28 „
Rowton House, Grove Street	...	...	46 „
221, High Street	...	...	30 „
Total	...	...	210

331 visits of inspection were paid to these places, and it was found on the whole that they were well conducted, the bye-laws and regulations being carefully carried out so as to leave little cause for complaints.

Ash Receptacles.

The Cheltenham Improvement Act provides that every house shall have a covered receptacle for ashes and house refuse.

We advocate the galvanized iron movable ash bins before any other kind, and it would be better if all the fixed ash receptacles could be abolished in favour of metallic bins.

Where one bin is not sufficient to hold the ashes of a week, two can be used, for it is not desirable to have them of so large a size that they cannot be readily lifted by the men who collect the ashes, dust and house refuse. By the use of these movable receptacles, and the more frequent collection of refuse, an insanitary and dangerous contrivance is got rid of in the shape of the old-fashioned "ash-pit," which, very generally being uncovered and containing a mixture of decomposable materials in large quantity, created a nuisance which was undoubtedly prejudicial to health.

A common fault in ash-bins is that they are made of thin sheets of common metal, so that they are quickly knocked out of shape even with ordinary usage. The receptacle approved by the Town Council is a covered circular iron bin of not less than 22 gauge iron. If householders would insist upon the covers being put back after using same it would prevent rain getting into the dust bin and would do much to keep down the nuisance from flies.

During the year under review 348 galvanized iron receptacles have been provided.

School Conveniences.

During the year all the sanitary conveniences at the schools have been inspected. A number of minor defects were discovered. The school managers or others responsible were notified of these, and the defects were promptly rectified.

Billeted Soldiers and Belgian Refugees.

Since the beginning of November, when I visited the proposed billets in company with the Medical Officer of Health and the Army Officers charged with taking the necessary houses, I have maintained a regular weekly inspection of these houses with the view of seeing that all the premises were kept in good sanitary condition. I have paid

—up to the end of the year—331 visits to the different houses and found various defects. On calling attention to any nuisances they were promptly abated.

We were furnished with a list of the Food Contractors to each regiment, and this enabled us to pay special attention to the meat, etc., supplied to the troops. The places where the food was prepared were also frequently inspected.

At the request of the Committees having the management of housing the Belgian refugees in this town I inspected and tested the sanitary arrangements of each house before it was occupied. Since their occupation the houses have been periodically inspected to see that all the sanitary arrangements were maintained in a satisfactory condition.

A. E. HUDSON, F.S.I.A.,

Chief Sanitary Inspector.

ANNUAL REPORT
UPON THE
Meteorology of Cheltenham,

BY
MR. A. C. SAXBY,
F.R. MET. SOC.,
BOROUGH METEOROLOGIST,
FOR THE YEAR 1914.

LATITUDE $51^{\circ} 53' 45''$ N. LONGITUDE $2^{\circ} 3' 21''$ W.
HEIGHT OF BAROMETER ABOVE MEAN SEA LEVEL, 206ft.

THE INSTRUMENTS ARE OF THE HIGHEST QUALITY
AND HAVE BEEN VERIFIED AT KEW.

*To the Mayor, Aldermen and Councillors of the
Borough of Cheltenham.*

GENTLEMEN,—

I have pleasure in submitting to you my Annual Report for Cheltenham during the year 1914, being the 37th year during which records have been taken.

The observations have been taken twice daily by myself or qualified assistant. The Sunshine Recorder at Pittville has been very carefully attended to by the Custodian of the Pump Room, the charts being brought in with regularity.

During the year an Inspector from the Meteorological Office came to examine the station and instruments. Five of the thermometers were considered faulty, and the Office wished them replaced.

In the case of four of them I was enabled to do this by using the instruments which were given to the Corporation by the late Rev. M. A. Smelt, M.A., in the year 1905, but the grass one had to be purchased.

The weekly reports have been published in the "Gloucestershire Echo," "Cheltenham Chronicle," and the "Looker-On."

I beg to tender my best thanks to those observers who have sent me returns from various stations over the county, and to all who have assisted me in the work.

I am, Gentlemen,

Your obedient servant,

AUSTIN C. SAXBY,

F.R. MET. SOC.,

Borough Meteorologist.

February, 1915.

THE METEOROLOGY OF CHELTENHAM.

Abstract of Meteorological Observations taken by A. C. SAXBY, F.R., Met. Soc., Borough Meteorologist.
Latitude 51° 53' 45" N. Longitude 2° 3' 21" W. For particulars see next page.

1914. Month.	Corrected Mean of Barom. 9 a.m. & p.m. At sea-level.	AIR TEMPERATURES.										Relative Humidity at 9 a.m. and p.m.	Rainfall.		Bright Sunshine HOURS
		Means of			Absolute Max. and Min.				Total fall	No. of Rainy Days.					
		Dry Bulb 9 a.m. & p.m.	Max.	Min.	Max.	Date.	Min.	Date.							
January	INCHES. 30·114	° 38·9	° 43·0	° 34·0	° 55	9	° 20	1	IN.: 0·83	9	47				
February.....	29·856	43·8	51·0	39·1	57	2-3-4-11	29	17	2·68	15	76				
March	620	43·5	50·3	38·1	63	13	29	11	2·64	22	85				
April	990	45·0	60·0	41·0	73	21	33	15	0·97	10	245				
May	998	52·6	61·4	44·0	74	18-20	32	27	1·34	13	172				
June.....	990	59·5	68·5	50·7	83	30	42	1	2·88	8	222				
July	986	61·7	69·3	54·0	84	1	45	28	3·06	16	148				
August.....	988	61·5	71·0	54·0	81	13-14	47	11	1·35	12	192				
September ...	992	56·7	66·9	48·4	81	3	36	21	0·98	8	202				
October.....	990	51·3	58·2	46·0	65	15	35	28	1·86	14	82				
November ...	984	44·0	50·1	38·4	58	5-9-31	19	21	2·90	19	50				
December.....	882	40·5	45·9	38·6	55	6	26	25	5·89	21	55				
Means	29·962	50·3	58·0	43·7	69·1		32·7		Total for 27·38	167	1576				
Column	1	2	3	4	5	6	7	8	10	11	12				

COMPARATIVE TABLE OF THE METEOROLOGY OF CHELTENHAM FOR THE YEARS 1878-1914.

A division has been made in the returns comprising this table, keeping the years previous to 1903-1914, when the instruments were removed to Montpellier Gardens, this situation being more central and giving more accurate observations of Cheltenham than formerly.

This is especially marked with regard to Humidity of the town. The former position was on the extreme North side of Cheltenham, the screen then being within a short distance of the stream of water which at that part forms the boundary between the Borough and Prestbury, and was thus detrimental to the natural dryness of the atmosphere.

Year.	Atmospheric Pressure.	MEAN AIR TEMPERATURES				Humidity.		Rainfall	
		Max.	Min.	Mean	Range	9 a.m.	9 p.m.	Inches.	Days.
	INCHES.	°	°	°	°	%	%		
1878	29.913	56.1	41.5	48.8	14.6	83	88	33.18	176
1879	29.944	52.2	38.5	45.3	13.7	87	89	32.63	212
1880	29.971	55.8	40.5	48.1	15.3	85	88	33.72	177
1881	29.957	55.0	38.9	46.9	16.1	82	85	25.28	185
1882	29.914	55.9	41.5	48.7	14.4	81	86	37.92	214
1883	29.964	55.6	40.6	48.1	15.0	85	89	29.93	204
1884	29.978	56.8	41.9	49.3	14.9	84	89	24.04	190
1885	29.930	54.8	40.0	47.4	14.8	84	87	26.45	193
1886	29.912	55.0	40.6	47.8	14.4	83	86	32.55	193
1887	30.029	55.3	38.6	46.9	16.7	80	83	22.78	153
1888	29.959	53.8	40.1	46.9	13.7	82	84	28.85	195
1889	29.971	55.4	40.6	48.0	14.8	84	87	27.07	181
1890	29.959	55.6	40.1	47.8	15.5	84	88	20.09	191
1891	29.957	55.1	40.0	47.5	15.1	83	87	33.14	192
1892	29.948	54.6	38.7	46.6	15.9	82	85	19.45	175
1893	29.990	59.1	41.3	50.2	17.8	81	83	19.91	169
1894	29.963	56.2	41.6	48.9	14.6	83	87	29.12	194
1895	29.923	56.2	39.6	47.9	16.6	83	87	24.99	174
1896	30.030	57.0	41.4	49.2	15.6	83	86	21.54	185
1897	29.969	56.8	42.8	49.8	14.0	82	86	26.23	191
1898	30.009	58.2	42.5	50.3	15.7	82	85	24.23	173
1899	29.989	58.5	41.2	49.8	17.3	81	85	25.72	162
1900	29.928	57.3	41.1	49.2	16.2	80	84	28.44	203
1901	29.966	56.2	40.1	48.1	16.1	79	83	23.27	169
1902	29.906	56.9	42.4	49.6	14.5	84	87	22.53	176
Means	29.959	55.9	40.6	48.2	15.3	82	86	26.92	185
1903	29.883	55.8	43.0	49.4	12.8	82	84	35.7	215
1904	29.988	55.7	42.8	49.2	12.9	80	84	22.4	177
1905	30.005	55.7	42.9	49.3	12.8	79	83	23.8	165
1906	29.985	56.8	43.4	50.1	13.4	78	82	24.5	164
1907	29.966	55.4	43.1	49.2	12.3	80	85	29.0	174
1908	29.803	56.8	41.9	49.3	14.9	81	84	20.2	158
1909	29.956	55.1	41.7	49.3	13.4	82	84	27.9	191
1910	29.968	55.6	43.0	52.6	12.6	85	87	31.3	175
1911	29.780	59.3	43.9	50.6	15.4	81	83	22.3	145
1912	29.955	56.5	43.3	49.8	13.5	82	88	29.5	190
1913	29.974	57.1	44.1	50.6	13.0	82	86	26.7	158
1914	29.962	69.1	32.7	50.9	17.4	86	87	27.4	167
Means	29.936	57.4	42.0	50.1	13.7	82	85	26.7	173

NOTES ON THE TABLES.

(See page 74.)

COLUMN 1 is the mean reading of the Barometer at 9 a.m. and 9 p.m., corrected for temperature— 32° Fahrenheit—and reduced to mean sea-level, the instrument being kept at 397, High Street, 206 feet above mean sea-level.

COLUMN 2 is the mean of Dry Bulb readings in the screen, both at 9 a.m. and 9 p.m.

COLUMNS 3 AND 4.—The maximum and minimum thermometers are read and set at 9 a.m. and 9 p.m., and entered to the same day. Instruments and screen are in Montpellier Gardens, 216 feet above mean sea-level.

COLUMN 9.—The relative humidity is calculated by dividing the elastic force of aqueous-vapour at the temperature of the dew-point for the month by that corresponding to the actual temperature of the air.

COLUMN 10.—The rainfall is taken at 9 a.m. and the total entered to previous day. The rain gauge, placed within the enclosure at Montpellier Gardens, is of Snowdon pattern, 5 inch size, the rim being one foot above the ground.

COLUMN 12.—The amount of bright sunshine is registered by an improved Campbell Stokes Recorder, which is mounted on the top of Pittville Pump Room. Prior to 1908 Jordan's Twin-cylinder Recorder was used.

Remarks on the year 1914.

The year 1914 might have been a pleasant one for reflection had it not have been for the one dark spot in everyone's mind, but meteorologically it was an unusually pleasant and promising one.

The fine, summerlike weather commenced quite early in the year, April being very fine and promising, and the sunniest month of the year. The intervening months to the end of October, with the exception of a few weeks, were most pleasant.

Temperatures throughout the year were above the average, with generally a good supply of bright sunshine. With the exception of June and July, from March to November were dry months. There were fewer rainy days than the average, but the amount of rain registered was above the average.

December was an unusually wet month and created a record amount.

Thunder with lightning were registered on five days, fog on five days, snow on five days.

JANUARY.—Atmospheric pressure was heavy on the 1st of the year, relaxing from the 3rd to 5th, increasing again to the 7th, the barometer reaching its highest point on the morning of the 12th, maintaining a fairly high and regular course to end of month. Range of pressure, 1.094 inch.

Mean temperature for the month, 38.8°, which is above the average, although some low readings were taken upon the grass on the 1st, 2nd, 7th, 18th, 23rd and 24th.

Between the 15th and 22nd the range of temperature in the screen was only 7°.

Rain fell upon nine days. Few snow flakes seen on the 6th, 13th and 15th amounted to nothing to record. No fogs.

FEBRUARY.—Up to the 6th of month atmospheric pressure was most even, the pressure then relaxing for two days, recovering slightly, again giving way until the 17th, the barometer reaching the highest point of the month, afterwards falling to the 22nd, when it reached the low point of 28.501 (corrected), but slowing recovering to the end of the month. Range of pressure, 1.693 inch.

Mean temperature for the month, 43.9°. Only two low readings on the grass were recorded, the 11th and 17th. On 18 nights the temperature on grass did not reach freezing point.

Rainfall rather heavy, it being recorded on 15 days. On the 21st it totalled half an inch. No snow, no fogs.

Bright sunshine, a very good supply (76.6 hours), the sun being seen on each day but three.

MARCH.—Atmospheric pressure up to the 9th was fairly regular but slight, then much irregularity occurring to the 20th, the barometer reaching its lowest point, 28.80 inches corrected; then steadily recovering, reached its highest point, 30.17 inches, on the evening of the 29th.

Range of pressure, 1.37 inch.

Mean temperature for the month, 43.5° , which is above the average. On three occasions only was more than 10° of frost registered upon the grass, viz., 10th, 11th and 22nd.

Rainfall above the average for the month, though only on two occasions was quarter of an inch exceeded. A little snow fell on the 20th. Thunder heard locally on the 26th.

A good supply of bright sunshine, there being only five blank days. Total, 84.7 hours.

APRIL.—Atmospheric pressure was steady the first four days of the month, relaxing a little to the 11th, increasing slightly to the 15th and further to the 26th, the highest the barometer reached, and maintained a high position to the end. Range of pressure, 1.244 inch.

Temperature above the average. On 15 days the thermometer registered above 60° , and on five occasions 70° .

Rainfall under 1 inch, there being none after the 11th of the month.

Bright sunshine in plenty, 246 hours being registered during the month, there being only one sunless day, and 14 days with over 10 hours each day, nine of the days being over 12 hours each. On many days sunshine was continuous from sunrise to sunset.

Wind South-Westerly; East on one day only.

MAY.—The barometer was high at the opening of the month, falling to the 7th, reaching its lowest for the month. Rising sharply on the 9th, it maintained a regular and high position to the end of month, reaching its highest on the 19th. Range of pressure, 0.982 inch.

Mean temperature for the month, 52.6° . As in many places, quite summer heat was reached, over 70° in the screen being registered on five days. As a contrast, several low readings were taken. Upon the grass on four nights the thermometer went below freezing, and on the 26th and 27th much damage was supposed to be done to the early vegetation, but it did not materialise.

Rainfall light; on no day did it reach one-third of an inch. Rain fell on 13 days only.

Bright sunshine a good supply, there being only five blank days, eight of the days registering between 10 and 13 hours per day.

Wind South-Westerly; Easterly on six days.

JUNE.—Atmospheric pressure was firm and steady the first week, relaxing on the 8th, recovering on the 11th, maintaining a very even and steady barometer until the end of the month.

Range of pressure unusually narrow, 0.798 inch.

Mean temperature of the month, 59.5° .

Rain fell on eight days only, two of the days over one inch each and another one half an inch.

Thunder and lightning for two hours on the 18th with some little rain and one clap of thunder on the 21st.

JULY.—Atmospheric pressure uneven up to the 5th, then very steady and very regular until the 18th, relaxing a little on the day, running a very even course to the 27th, steadily increasing to the end of month.

Range of pressure, 1.262 inch.

Temperature above the average ; the hottest day of the month was on the 1st, when it registered 84.0° in the screen.

Rainfall heavy for July, falling on 16 days ; on five occasions more than one-third of an inch fell each day.

Thunder and lightning occurred on the 1st and 11th.

A good supply of bright sunshine, there being only one blank day.

AUGUST.—The barometer was low at beginning of month. Atmospheric pressure steadily increased up to the 11th, running an unusually even course to the 25th, then further increasing until the barometer reached its highest point on the last day of the month.

Range of pressure, 0.896 inch.

Temperature much above the normal, 81° being registered in the screen on the 14th.

Absence of thunder.

Rainfall light, being experienced on 12 days only.

Bright sunshine in abundance, there being only three blank days, and eight days over ten hours per day.

Wind, South-Westerly.

SEPTEMBER.—Atmospheric pressure was steady at the opening of month, oscillating on the 11th, 12th and 13th, when it suddenly gave way on the 17th, reaching its lowest point, at once recovering and increasing to the 21st, running a very steady course to end of month, the barometer finishing at its highest point.

Temperatures were well up to the average, but no extremes were registered.

Rainfall light, experienced on only eight days, about the middle of the month.

Thunder with light rain occurred at 8 a.m. on the 8th.

Bright sunshine a very good supply, there being no sunless day.

OCTOBER.—Atmospheric pressure was great at commencement of month and well maintained up to the 19th, relaxing to the 22nd and further to the end of month, giving its lowest reading.

Range of pressure, 1.130 inch.

Temperature up to the normal, the entire month being very pleasant.

Rainfall was pretty continuous the latter half of the month, rain falling on 14 days, on each day but three from the 12th. The rain on the 12th broke the spell of drought of 25 days from the 18th September.

Bright sunshine was not very abundant, although there were eight blank days.

NOVEMBER.—Atmospheric pressure was light at the beginning of month, increasing steadily until the 7th, maintaining a steady pressure up to the 12th, when a sharp depression took place, quickly recovering. Another fall occurred on the 15th, the barometer reaching its lowest position ; sharply recovered the following day, rose to its highest on the 18th, running a somewhat uneven course under light pressure to the end of the month. Range of pressure, 1.525 inch.

Mean temperature of the month was above the average, although some very low readings were taken from 17th to 24th.

Rainfall was pretty general throughout the month, being registered on each day but eleven, the driest days being from the 16th to 23rd. A heavy rain took place (0.80 of an inch) on the 2nd, commencing 11.30 a.m. and continuing up to 9 p.m., and at intervals during the night.

Bright sunshine was up to the average for November, there being nine blank days.

Fog was observed on the 18th, 19th and 24th. No snow.

DECEMBER.—Atmospheric pressure was very light at commencement of month, increasing slightly the first two days, running an uneven course until the 11th, but relaxing on the 12th, 13th and 14th, producing the lowest reading of barometer on the latter day, recovering steadily but remaining low to the end of year. Range of pressure, 1.390 inch.

Mean temperature was above the normal, although some low readings were taken the latter half of the month.

Rainfall, as in many parts of England, was exceptionally heavy, and easily creates a record for December. There were ten dry days. The average amount for eight days amounts to well over half an inch per day.

Bright sunshine was naturally very sparse, there being 12 blank days.

A little snow fell on the 21st, and a very heavy fall was experienced on the 28th and 29th; the flakes were unusually large and fell very thickly, the total amount of rain and snow being just 1 inch.

As in many parts of the country, an unusually heavy fog was experienced on the 23rd and 24th.